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LEVERAGED BUYOUTS AND CORPORATE DEBT

HEARING

BEFORE THE

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UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

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LEVERAGED BUYOUTS AND CORPORATE DEBT

TUESDAY, JANUARY 24, 1989

U.S. SENATE,
COMMITTEE ON FINANCE,
Washington, DC.

The hearing was convened, pursuant to notice, at 8:45 a.m. in room SD-215, Dirksen Senate Office Building, Hon. Lloyd Bentsen (chairman) presiding.

Present: Senators Bentsen, Moynihan, Baucus, Bradley, Riegle, Daschle, Packwood, Danforth, Heinz, and Symms.

[The prepared statements of Senators Heinz, Durenberger, Rockefeller, and Symms appear in the appendix.]

[The press release announcing the hearing follows:]

[Press Release No. H-1, December 12, 1988]

SENATOR BENTSEN ANNOUNCES FINANCE COMMITTEE HEARINGS ON LEVERAGED BUY-OUTS AND CORPORATE DEBT

WASHINGTON, DC—Senator Lloyd Bentsen (D., Texas), Chairman, announced Wednesday that the Committee on Finance will hold hearings on the recent trend in corporate restructurings, mounting debt in the corporate sector, and the relationship of these trends to the tax law.

The hearings are scheduled for *Tuesday, January 24, Wednesday, January 25, and Thursday, January 26, 1989 at 10:00 a.m.* in room SD-215 of the Dirksen Senate Office Building.

Bentsen said, "The recent trend of corporate leveraged buyouts and other corporate restructurings is troubling and deserves a closer look. In particular, the massive corporate conversion of equity to debt causes me concern about the ability of our country's corporations to weather an economic downturn. I am also concerned about the possible adverse effects of this mounting debt on Federal tax revenues, at a time when reducing the budget deficit is a critical priority.

"One cause for this trend may be our tax system's bias in favor of debt financing, as opposed to equity financing. I intend to examine this problem and explore the possibilities for reform. Additionally, I would like to determine whether any other aspects of the tax system may artificially encourage those sorts of transactions. These issues are complex and I look forward to a fruitful series of hearings on the subject."

OPENING STATEMENT OF HON. LLOYD BENTSEN, A U.S. SENATOR FROM TEXAS, CHAIRMAN, SENATE FINANCE COMMITTEE

The CHAIRMAN. This hearing will come to order. This hearing was originally scheduled for 10:00 a.m. The Secretary has been requested by the President to meet with him and other members of the Cabinet at 10:30 a.m. for purposes, as I understand it, of discussing the problem of the budget deficit and if you have a solution to that, I would not want to keep you from it.

With that in mind, we have started these hearings a bit earlier, at 8:45 a.m.; and I would ask that, except for a statement for the

Majority and then one for the Minority, the members of the committee not give their oral statements because of the shortness of time. Then, after the Secretary's statement, we will proceed to questions in order of appearance.

Then, if we have time left after that, we will make a second round and any statements can be made at that time.

We are here this morning to examine the problem of the leveraging of corporate America, to see if there is an appropriate legislative response to that kind of a problem. I am of the opinion that the leveraged buyout and the move from equity to debt can cause some serious problems in the long run for America. If we have reached a position where debt is so much more attractive than equity in the way of corporate financing, then we ought to be looking, in this committee, for a means of restoring some balance.

That doesn't mean that we want to stop all leveraged buyouts, acquisitions or mergers. We well know that there are good ones, and then there are bad ones; but I, for one, would like to find a way to cool things down and see if we can't find an equitable way to balance the move from equity to debt.

I can well understand, in a time of a benign economy, that businesses can get by with a substantial move to debt, but I am deeply concerned as to what might happen if and when this country goes into a recession; that recession could be deepened and lengthened by a massive move to debt.

In recent years, the level of corporate debt in this country has mushroomed. In 1981, the total value of leveraged buyout transactions in this country was $3 billion. By 1987, that had increased over ten times; last year, the Kraft and RJR Nabisco acquisitions by themselves were $36 billion. Many corporations have gone into debt to fend off takeovers, some to retire stock and go private.

The net result of all these transactions is that you are seeing a corporate debt burden that is being tied to a reduction in corporate equity. Over the period 1984 to 1987, the nonfinancial corporations in this country retired a net $313 billion in equity and, at the same time, borrowed a net $613 billion in debt.

And we are looking at another situation in going private transactions led by corporate officers. In some instances, they will try to buy the company from the stockholders at 20, 30, even 40 percent below what they know the company is worth. In those kinds of instances, who do they represent? Do they represent themselves or do they represent the stockholders?

There is a massive opportunity for conflict of interest that presents itself in that kind of a situation. This explosion of debt, I think, is of great concern to us. We need to examine the implications of the increase in debt, not only for corporations but also for the banking and the private pension systems. For example, a corporation may buy a bond with a conservative approach for the top rating and then find the rating of that bond dramatically lessened by highly leveraged debt that is later offered.

We have to look at the problem of a business having to use the cash flow to service that debt, leaving less money available to build new plants, to increase productivity, and less money available for research and development to meet international competition. I want to see if we can find a solution to that explosion of debt.

These hearings are going to let us hear from a distinguished roster of witnesses from Government, business, and academia; their expertise ought to give us a much clearer picture of the problems and what, if any, legislative solutions we can pursue. I frankly think we can come up with some that will be effective and will be equitable and will cool this move into debt.

I would like to defer to the ranking minority member for any comment that he might have.

OPENING STATEMENT OF HON. BOB PACKWOOD, A U.S. SENATOR FROM OREGON

Senator PACKWOOD. Mr. Chairman and Mr. Secretary, I start this hearing with very much of an open mind. This is a subject that, until the last few years, has had almost no coverage in the press, almost no knowledge in the committee. I guess the questions I would ask are as follows.

Is corporate debt any greater now than it was 10, 15, or 20 years ago—or 30 years ago—as a percentage of the GNP? Two, what do our foreign competitors do? Do they finance most of their expansions by debt or by equity? If they finance it by debt, is it different from our financing it by debt? Is a leveraged buyout a different kind of debt than normal corporate debt?

And then, I think, in the back of our minds, we also ought to always think to ourselves that we do not want to build into our corporate structure—whether it is because of laws we pass in Congress or otherwise—the equivalent of academic tenure for corporate managers and officers. There is something to be said for corporate management from time to time being shaken up–perhaps by its own shareholders or perhaps by outsiders.

But to guarantee that, after they have been there seven or eight or ten years, corporate management in essence have lifetime security regardless of how the company is managed, and if by chance things go bad, they have a way of bailing out with extraordinary retirement or severance benefits, I think is something to be avoided.

So, as we start down this road, first I want to find out if things are any different than they have been for 10, 20, or 30 years. Second, are we likely to undertake anything that might make it difficult to remove inept management? Thank you, Mr. Chairman.

The CHAIRMAN. Thank you. Mr. Secretary, if you would proceed, please?

STATEMENT OF HON. NICHOLAS BRADY, SECRETARY, DEPARTMENT OF THE TREASURY

Secretary BRADY. Thank you, Mr. Chairman. I am delighted to be here today. When you and I met at my confirmation hearings three months ago, we discussed this subject; and I know we have several common views. If it is all right with you, I would like to read a fore-shortened statement this morning in setting forth some of my views.

It is a pleasure to be here today to discuss with you the growing phenomenon of leveraged buyouts, LBO's, and related transactions. The effect of LBO's on the American economy has become a matter

of increasing concern, both to Wall Street and to Main Street, as the size and numbers of LBO's have grown. One recent transaction approached $25 billion in size, suggesting that, if anything, the pace of the activity continues to accelerate.

The business sections of our newspapers and the TV stock market reports at night abound with stories of returns earned by investors in LBO's. As might be expected, the level of its success has attracted additional capital; and as you have mentioned, it is continuing on an ever-growing basis. There is now an estimated $30 billion in funds organized for equity investment in LBO's which, when expanded by the associated debt, would support between $250 and $350 billion in future LBO's.

The availability of such capital generates its own demand as the pressure on managers of LBO funds to invest their assets spawns a new search for candidates. These hearings provide a valuable opportunity for the committee to get beyond much of the rhetoric that surrounds LBO's, to examine and develop the data we need in order to reach an informed judgment on how LBO's have affected the American economy. Given what is at stake, we should proceed carefully.

In examining this phenomenon, we should not restrict our concern to LBO's alone. Just as investors pool their funds to create LBO equity funds, companies using their own equity in their own operations leverage themselves up in order to engage in exactly the same activity. I call these transactions "leveraged takeovers," or LTO's; but as a matter of simplicity in the course of my testimony, I will address my remarks to LBO's, although they should be read to include LTO's as well.

Perhaps the issue that should guide our analysis of LBO's is the competitive position of our U.S. corporate sector. Increasingly, we find ourselves in a global economy, with American businesses under pressure to compete and maintain the markets for their products. Their ability to remain competitive is, of course, central to our economic future. If we are competitive in the world economy, we will be able to provide the standard of living that our citizens ask for and the jobs that they deserve.

We ought, therefore, to focus on whether LBO's and the changes they produce in corporate financial structures hurt or improve our competitive position. That same standard should also be applied to measures which might be proposed to regulate LBO's in the future.

Thus, even if we conclude the LBO's have adversely affected the corporate sector, should we not weigh carefully whether proposals to restrict LBO activity will in fact aid American business or only make it more difficult to compete on the international scene.

The typical LBO involves the acquisition of a public corporation by a small investor group, frequently including the target corporation's management. The investors would ordinarily operate through a shell acquisition corporation which would either merge with the target or make a tender offer for its stock. In either event, the target shareholders would surrender their equity—common stock—for cash and/or debt of the acquisition corporation.

Typically, the equity supplied by the investor group represents 15 percent of the LBO's total capitalization. Around one-third of the LBO's total capital would be subordinated debt, initially in the

form of bridge loans, which would later be replaced by so-called "junk bonds." This bridge financing, which as I have mentioned is roughly one-third of the capitalization, often comes from an investment bank with the junk bonds purchased by pension funds, specialized limited partnerships, insurance companies, bank subsidiaries, and tax-exempt institutions.

The largest part—the remainder of the financing, roughly 55 percent of the total LBO financing—would ordinarily be debt secured by the assets and receivables of the target corporation. This senior debt would typically come from a syndicate of banks that may, to a smaller extent, involve insurance companies and others.

The significance of the corporate trends toward additional leverage in private ownership is reflected in recent data concerning LBO activity. From 1978 to 1983, the total value of LBO's was around $11 billion. In the five years since, LBO's total $160 billion, with 1980 alone accounting for over $60 billion.

The data also reveal a lesser trend of LBO activity concentrated in industries better able to support this substantial leverage. Thus, a disproportionate share of LBO's have occurred in nondurable manufacturing, retailing, and services, all relatively noncyclical industries with characteristically strong cash flows.

An analysis of individual LBO's suggests that these transactions have introduced unprecedented levels of corporate leverage. Thus, the level of debt in some recent LBO's leaves the corporations unable to service their debt with existing cash flows. It is becoming apparent that many such transactions require immediate asset sales at higher prices in order to reduce the debt to a manageable level. In other cases, the corporation will be required to cut back on noninterest expenditures; for example, expenditures for research and development and replacement of capital goods in order to provide an effective debt retirement schedule.

The extreme in recent LBO's is only partly reflected in aggregate data concerning corporate debt. Most balance sheet measures of corporate debt indicate a significant increase in leverage over the past few years, with current levels at historical highs. Other measures, however, suggest more moderateincrease in leverages.

Ultimately, however, the significance of corporate leverage is a question of an individual corporation's capacity to service their debt. Aggregate data concerning debt ratios reflect averages; and just as one may drown in water that averages two feet deep, average debt ratios cannot answer whether there are significant individual situations of dangerous overleverage. It is important to know whether individual cases of extreme leverage are isolated and perhaps attributable to special circumstances or reflect, instead, an accelerating trend in American industry.

Data addressing these and related questions are being developed at Treasury and by some in the private sector. We should recognize, however, that past experience is not a particularly good measure of future prospects for a highly leveraged corporation. Existing LBO's have thrived in a period of extended economic expansion. They have not been subjected to the test of leaner times. It is certainly not the policy of the Bush Administration to arrange such a test. But how well these highly leveraged entities survive cannot be answered by past data alone.

Some view LBO's as a rational strategy to maximize the value of corporations and their assets. Part of this strategy relates to the tax system and its discriminatory treatment of equity versus corporate debt. Since interest payments are deductible but corporate dividends are not, there is a substantial tax advantage that accrues to LBO's and other transactions that effectively substitute corporate debt for equity. I would underline the following. It should come as no surprise that removing the burden of the 34 percent tax rate from a corporation's income stream can arithmetically increase the value of a corporation's capitalization. The substitution of interest charges for pretax income is the mill in which the grist of takeover premiums is ground.

In addition, LBO's may generate new efficiencies in corporate management and financial structures. For corporations in mature industries where cash flows are strong but opportunities for internal growth are limited, an LBO may be a logical mechanism for distributing excess cash resources, allowing the market to reinvest the funds in more productive activities. Similarly, LBO's in some cases force corporate managers to abandon unproductive investments or extraneous lines of a corporation's business. Thus, some have seen LBO's and the divestitures they trigger as a process of corporate deconglomeration, reversing the conglomerate merger activity prevalent in the 1960s and early 1970s.

Although tax and efficiency considerations may be important parts of an LBO, they do not fully explain the extent and timing of LBO activity. The tax advantages of debt capitalization, as compared to equity, have existed for most of the history of the corporate income tax. Viewing LBO's as transactions that maximize shareholder value does not explain why it is only in the last few years that LBO activity has taken off.

So, what has happened? Our own analysis suggests that other factors have contributed importantly to the development of LBO activity at its current level. In part, these factors which I will discuss here have simply facilitated a market in which LBO's were made feasible.

Certainly, a key factor in the increase in LBO activity is the emergence of a junk bond market, which has supplied much of the debt capital on which LBO's are based. Prior to the late 1970s, junk bonds were generally so-called "fallen angels," obligations that have been of investment grade previously when they were issued but were later downgraded because of problems that had arisen with the issuer's credit. More recently however, the junk bond market has developed into a market for corporate debt that, because of the debt's subordinated status and the corporation's substantial other indebtedness, is below investment grade at the moment it is issued.

A central purpose of the present-day market for junk debt has been to facilitate directly LBO's and LTO's. The substantial leverage characteristic of LBO's dictates that much of the debt capital will necessarily be of a junior grade. In the past, neither banks nor the traditional bond markets provided for such transactions; and consequently, an alternative source of financing evolved. In sum, the junk bond market has vastly facilitated increased LBO and LTO activity.

The current volume of LBO's is also partly attributable to the growth in arbitrage activity. Arbitragers purchase the stock of corporations thought to be acquisition candidates, hoping to sell the stock at a higher price if and when the acquisition is concluded. By definition, arbitragers are not long-term investors, and the nature of their activity and the demand for high rates of return on their available capital require that they turn over their investments in a reasonably short period of time. Because of arbitrage activity, the perception that a corporation is "in play" tends to become a self-fulfilling prophecy. Once arbitragers buy up the stock of a corporation, the willingness of the corporation shareholders to sell is established, and the management's ability to resist an acquisition is effectively reduced. The certain knowledge that arbitragers own working control of the target company's stock in turn makes sure that the potential acquirer's bidding for the corporation stock will surely be successful.

A final contributing factor in the proliferation of LBO activity is the ability of investment advisors, banks, underwriters, and LBO fund managers to earn substantial up-front fees. Such fees can total nearly six percent of the corporation's purchase price and lend considerable momentum to LBO activity. These fees are earned up front, largely divorced from the long-term risks of the transaction. The LBO sponsor, investment banks, bond underwriters, syndicating banks, and others earn substantial income if an LBO is completed and thus have strong incentives to identify LBO candidates, arrange financing, and conclude transactions. Sadly, these same parties may have relatively little, if any, investment in the long-term success of the new enterprise. Given this arrangement, it may very well be that the net effect of LBO's is a financial snipe-hunt where the new long-term investors, flashlight in hand, are left holding the bag.

The risks attributable to increased corporate debt fall also on investors; some level of risk is inherent in all investment, and there would seem to be no reason for concern where individuals or business investors knowingly undertake the risks involved in acquiring LBO debt. However, much of the capital invested in LBO's comes from banks, savings and loans, pension funds, insurance companies, and other institutional investors which are, in effect, investing on behalf of the individuals whose savings they manage and control. It should be noted that depositors in banks and savings and loans and participants in defined pension benefit plans have the benefit of a Federal guarantee of their deposits.

Many have questioned whether LBO's are appropriate investments for a financial institution, given the levels of risk involved. Although there is an understandable desire on the part of such institutions to maximize returns, such desires must be balanced against their fiduciary obligations to avoid substantial commitments of capital to high-risk investments. This concern is sharpened by a history of overcommitment driven by fees and fashion to types of loans which subsequently prove to be problems.

In this regard, a number of State insurance regulators have proposed restrictions on the extent to which insurance companies can hold such debt. I am also encouraged that Chairman Greenspan and Comptroller of the Currency Clark have indicated their intent

to review carefully the level of LBO investments and possibly the guidelines for the federally chartered banks.

A concern expressed by some is whether LBO's permit Wall Street insiders—as you have mentioned, Mr. Chairman—and corporate managers to profit at the expense of ordinary investors. This is a legitimate concern but one, I do believe, was more relevant in the early days of LBO transactions.

More recently, we have seen that in most cases the market will operate to ensure that shareholders receive full value for their stock. As we have witnessed in recent transactions, the management-initiated LBO may merely trigger offers from outside interests, with the ultimate price for the company stock determined in an auction-like bidding process.

This process works best to establish a fair price when all bidders have access to relevant information. And corporate boards of directors, with the encouragement of the courts, have tended to insist that the corporation's book be opened to all investors.

A final but important area of concern is the effect of LBO on corporate constituencies other than the shareholders. In previous testimony before your committee, I have cautioned that we should be careful not to march to the drumbeat of single dimension philosophies. Thus, while shareholders may realize large premiums from an LBO, the corporation's employees, bond holders, and community in which the corporation is located may be adversely affected. Employees may lose their jobs if a corporation is forced to retrench or if divisions are sold in order to retire debt. Such job losses have significant collateral effects in the communities in which the employees work.

As I indicated earlier, I do not believe the recent surge in LBO's should be seen as driven only by tax considerations. The tax incentives for debt capitalization are long standing and recent legislative changes may actually have diminished the tax advantages available from leverage acquisitions. However, tax considerations remain an important part of corporate financial planning, and we should be concerned about the tax system's bias against equity capitalization.

Because we subject income on corporate equity to double taxation while interest payments are taxed only once, a corporation throughout its existence is encouraged to raise capital in the form of debt rather than equity. A new corporation is encouraged to load its initial capital structure with debt; the growing corporation is encouraged to raise newcapital through debt; and the mature corporation is encouraged to replace its existing stock with debt, either through a stock buy-back or an LBO.

Many have concluded that the way to correct the tax bias for debt capitalization is to limit corporate interest deductions. This approach, however, would simply increase the cost of capital for American acquirers by effectively raising their interest rates on an after-tax basis. Moreover, since such restrictions would not affect borrowing costs of foreign corporations, the net effect would be a competitive disadvantage for our own U.S. corporations. Finally, the long history of attempts to define problems out of existence has proved that the definees are more adept than the definors. Just as

soon as new regulations are written, efforts are under way to render them irrelevant.

A more logical approach to the biases in our tax system would be to focus on the overtaxation of corporate equity. We stand virtually alone in the industrial world in the extent to which we apply a double taxation to corporate income. Thus, although each of our major trading partners imposes a separate tax on corporate income, most also provide substantial relief from that tax when dividends are distributed. We should not ignore this fact as we compete every day in an increasingly global economy. Germany, Italy, Australia, and New Zealand allow shareholders full credit for the corporate taxes paid. France provides full relief through a combination of a partial deduction of dividends paid and a partial shareholder credit. Other countries with which we compete daily, including the United Kingdom, Japan, and Canada, provide significant partial relief from double taxation.

It is important to recognize, however, that LBO's and leveraged share buybacks typically generate three effects offsetting the increase in corporate interest deductions. An LBO or stock repurchase agreement represents a taxable sale of stock for shareholders generally at substantial premium, and the gains recognized effectively accelerate income that might have been deferred for a number of years. In addition, an LBO or substantial share repurchase would typically require taxable asset sales by the corporation in order to retire indebtedness. It is also important to recognize that, to the extent the LBO's or other leveraged recapitalizations lead to a more efficient allocation of resources, the overall level of national income will be increased; and this will generate additional tax revenues.

My testimony has been necessarily general, but I admit that I have a growing feeling that we are headed in the wrong direction when so much of our young talent and the nation's financial resources are aimed at financial engineering, while the rest of the world is laying sound and solid foundations for the future.

We have always done our best in this country when our savings have been used to create new jobs, new products, and new services at lower prices. LBO's produce fundamental changes in the financial structure of this country's corporations. They in turn raise basic questions about our economic future—whether we will continue to grow and create jobs and whether we will remain competitive.

Mr. Chairman, I know you share my concerns. By holding this series of meetings, you have both issued a call to the brightest minds in both the Government and private sectors to examine and evaluate this new trend. I commend your and the committee's efforts, and I would like to join you today in this endeavor by issuing a challenge to those who make the financing decisions and the financial institutions which advise them—in effect, to the gladiators in the arena.

Let's call on them to put the same intensity and effort into evaluating where we are going as they have into taking us there. Let them bring forward the evidence and make proposals about what should be done.

I think it is entirely appropriate that we together, the Congress and the Administration, call upon the private sector to take on this responsibility. It is in the long tradition of our democratic system that Government look first to the people themselves for solutions and only act, but do act, when it is clear that the people cannot solve the problem themselves.

Thank you for enduring my long statement.

The CHAIRMAN. Thank you very much, Mr. Secretary. I think you have posed the problem well.

[The prepared statement of Secretary Brady appears in the appendix.]

The CHAIRMAN. We will observe the early bird rule here. I show the arrivals as Mr. Heinz, Mr. Packwood, Mr. Danforth, Mr. Caucus, Mr. Bradley, Mr. Riegle, and Mr. Daschle. We will put a five-minute limitation on the questions.

Now, Mr. Secretary, I favor a private sector solution, too, if it can be brought about; but we are seeing this transition to debt moving, in my opinion, at an alarming rate. I frankly think we have to explore it and see if we can't come up with an equitable way of balancing the incentives for equity as compared to debt.

And it won't be easy because as I study the work of the Treasury in the past, I recall back in 1969 that we asked for Treasury to come up with a definition that distinguished between debt and equity; and eleven years later, they had not done it. It is not an easy thing to accomplish.

I have looked at a situation where four companies are talking about trading their stock for a variety of debt issues. One of those levels of debt that would be issued in this unbundling of stock would be a 30-year bond that would pay interest that related to the present dividend being paid. The line between equity and debt gets awfully close in that kind of a situation.

I have also heard time and time again that Japanese companies and West German companies—some European companies—are much higher leveraged than our own companies; and that is true. I can recall sitting on a corporate board where, when we tried to buy a German company, we went to the banks to buy it because the banks owned a substantial equity interest in the company.

We read about Japanese companies that borrow a very high leveraged amount of debt from Japanese banks and then find that that Japanese bank also owns a very substantial interest in the company itself. So, the relationship is quite different in many instances from what we find in this country.

If that is the case, is that a reason for us to be sanguine here? Do we find a different relationship between the banks and the corporations in this country?

Secretary BRADY. Mr. Chairman, I think we do find a different relationship, and you put your finger on it. In Japan particularly, but Germany as well, there is a much higher degree of leveraged debt. Debt is a much greater part of corporations and companies in those countries, but as you have so well pointed out, in both of those countries, the banks and the people lending money to the corporations also have substantial investments in the equity. There is an enormous amount of cross-ownership in Japan and a good deal of it in Germany as well.

So, I think it is different; and we shouldn't be led to believe that leverage is all right just because it is used in greatly higher amounts in those two countries when their ownership system is different.

I think there is also another difference, particularly in Japan, where the existence of corporations is more highly guaranteed by the government itself. There is a much closer tie between the governments in countries such as Japan and Germany than there is in the United States. It is simply different.

So, I agree with you; I don't think that is a solid basis to assume that increasing our leverage at an alarming rate is a good idea.

The CHAIRMAN. Another thing I think we are seeing in this country, Mr. Secretary, is increasing pressure on management to give short-term results—quarter to quarter results—to keep their earnings and stock prices up. And we are seeing a substantial, what we would have called in the old days, "churning of stock" by financial institutions, pension funds, insurance companies, banks.

It has been suggested that we have a new approach to the capital gains tax and that we try to have an incentive there to hold stocks longer and that it be a graduated tax—the longer it is held, the less the capital gains tax would be—to try to deter the fast turnover in stock. And yet, you also have a situation where much of that stock is held by tax-exempt institutions.

Do you think there are ways that we can create a uniform incentive for holding investments longer that would be equitable?

Secretary BRADY. I think the goal is exactly the one we should be aiming at. The turnover, the preoccupation with short-term results, the fly-now, pay-later mentality of a great many investors in this country is one that we ought to look at closely and see what we can do about it. It is certainly not the same mentality as our competitors abroad use where their views and their horizons are much further out.

The Treasury is studying—as has been mentioned in some of the newspapers—a possible system of arranging capital gains which does exactly just what you said—perhaps impose a higher tax in earlier years and give credit to those who are willing to take the long-term view and make sounder and more definite plans for the future.

However, there are all sorts of ramifications to this. For instance, if you tax gains in the earlier years, you decrease the liquidity which is so important to our market system and, in effect, make it harder for people to sell their stocks when they want to. Still, I think the goal is admirable.

The Treasury is looking at it. We haven't completed the study, but I think you are right on the mark to see if we can try to come up with a system which favors the long-term investor.

The CHAIRMAN. What do you think about this new approach of selling unbundled stock units? And if you see a massive change from equity to debt, what it does to revenue—to the Treasury—at a time when we are trying to reduce the deficit and the budget?

Secretary BRADY. The preliminary studies that we have, Mr. Chairman, indicate that although, by reducing pretax income you do decrease the revenue to the Treasury, because of the fact that these plans generally do involve a capital gain to investors, at least

in the short run the pluses and minuses about cancel each other out. There is no effect on the Treasury.

But what it does in the long term is another question, and we are studying that because it may very well be that this is a one or two time effect; and as you get further out in the years, the revenue effects are not as pleasant.

The CHAIRMAN. Thank you, Mr. Secretary. Senator Heinz?

Senator HEINZ. Thank you, Mr. Chairman. Secretary Brady, I commend you on some very thoughtful and careful testimony. And I think your point about your nervousness about the increasing debt loads is well taken.

Looking over some numbers, I see that debt in almost every category is up. Household debt has risen from 52 percent to 62 percent of GNP between 1980 and 1987. Corporate debt, according to my numbers, has risen from 30 percent of GNP to 37 percent of GNP over the same seven-year period.

Federal Government debt has risen from 27 percent of GNP to 43 percent of GNP over the same period; and it is clear that America is adding debt on all fronts. Your analysis of the reasons, it seems to me, is cogent; and in analyzing the problem of substitution of debt to equity and the incentives for people who now hold equity to shift to junk bonds or to be replaced by somebody else, there clearly are many incentives.

You yourself mentioned the double taxation of distributed dividends, the relative disadvantage that equity holders are out in this country versus other countries.

Let me ask you this. Let me grant you all of that, but are there other factors beyond tax factors that also encourage this trend of leveraging? Let me suggest a few.

Are there flaws under the current system that cause the return to equity holders to be unnecessarily low? For example, you mentioned corporate management competence as a reason for some LBO's. Are our corporate managers less competent as a whole than in other countries?

The general accountability and governing structures as it relates to shareholders knowing what is going on in a company. Do we have a system that somehow is insufficiently attentive to the needs of shareholders to understand and therefore demand better performance from management?

Are we at the Federal Government level, with the rapidly increased debt loads that we have increased, somehow responsible for a differential increase in this country in the cost of capital? My question could include as well incentives for excessive speculation in the market.

My question is not for you necessarily. You can, if you want, respond on each of those; but it seems to me that, in looking at tax issues here, we may be looking only at a portion of the overall problem. My question is: Is there somebody in the Administration looking at the big picture? Is that you? Are you charged with that, or is that somebody else's responsibility?

Secretary BRADY. Let me take your question, Senator Heinz, which I think had three parts to it, or four. With regard to competence, I believe our managers in this country are equal to or better than any in the world. In fact, I think they are better; and they

have faced up well the global competition in the last several years. They have made changes.

The people I talk to are confident that American corporations can compete and hold their own in the global marketplace, and I am convinced that our managers are top flight.

With regard to accountability, there is no system of government in the world that holds its corporations to higher levels of accountability than the United States. I think we are seeing right now, as other countries around the world pick up our standards, that some of the scandals which we passed through 10 and 20 years ago are occurring in other countries. So, I think in terms of accountability we hold our corporations to at least as high a level as anybody in the world.

With regard to the Federal Government, I think what we are doing is looking at the problem right now. In effect, have we got a system which so favors the issuance of debt by double taxation of dividends that we produce an unusual result, which is, I think, the junk bond and leveraged buyout trend.

So, in those three areas, I really think that we are doing our job.

Senator HEINZ. On that last point, on page 11 you indicate that the Administration made proposals in 1985 and 1986 to remedy that, and those appear to be quite valid proposals. Do you anticipate advancing any such proposals in the near future? And if so, of course, how are we going to pay for them?

Secretary BRADY. You know, I think we will do what people in the Congress would do. We are very interested in the testimony that comes out in this and other committees; but as I have stared at this problem hard since Senator Bentsen and I talked about it three or four months ago, what I really see is the market providing its own solution to the double taxation of dividends. It really shouldn't be any surprise to anybody that if you can come up with—as the junk bond/LBO trend has done—with a system whereby you can take the 34 percent that used to go to the Federal Government and pay it to junk bond holders and other senior securities, that you can produce a higher value for a corporation.

You can say that is bad, and that certainly has produced in the LBO activity levels of debt which scare everybody. On the other hand, it is the free market's answer to the double taxation of dividends. If you treated dividends the same way you treated debt, you wouldn't have the LBO activity; I am convinced of that. What do you do about it? A tougher problem.

Senator HEINZ. Thank you. My time has expired.

The CHAIRMAN. Senator Packwood?

Senator PACKWOOD. Mr. Secretary, you are right, I guess, when you say we have to be careful about how we look at comparative statistics. I see in the material given to us by the Joint Committee that, indeed, Europe and Japan do have much higher ratios of debt to equity and much higher ratios of debt generally than we do.

Are you saying that, indeed, that fact is true, but it may not be a critically relevant fact?

Secretary BRADY. I think it is a factor, but it is not critically relevant. As Senator Bentsen has pointed out, companies in countries abroad organize themselves differently. The government has a much closer tie to these companies, in effect guarantees their exist-

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ence. And in terms of ownership, the banks in many of these countries own both equity and debt. So, the fact that they have one or the other—doesn't make too much difference, because they have both.

Senator PACKWOOD. Do we allow banks in this country to own equity? I don't know.

Secretary BRADY. I don't believe so.

Senator PACKWOOD. We do allow insurance companies to buy stocks.

Secretary BRADY. We do.

Senator PACKWOOD. Pension funds to buy stocks.

Secretary BRADY. We do.

Senator PACKWOOD. Trust departments to own stocks even in banks in holding for individuals. When a foreign bank, even if it has equity in a company, makes a loan, I assume they take security, don't they, assets of the company or something?

Secretary BRADY. I didn't hear you, Senator. I am sorry.

Senator PACKWOOD. When a foreign bank makes a loan to a foreign company—a debt loan—I assume they take some kind of security; I don't know.

Secretary BRADY. They do.

Senator PACKWOOD. And if they own equity in the corporation in addition, therefore, if there is a downturn, aren't they in equally as dangerous a position as debt holders in this country?

Secretary BRADY. They are.

Senator PACKWOOD. Or doubly so if they have equity in addition?

Secretary BRADY. That is correct.

Senator PACKWOOD. Then, I look at another chart in the Joint Committee material: corporate debt, household debt, and Federal debt as a percentage of the GNP. Corporate debt is defined as nonfinancial corporations, excluding farms; and just taking the Reagan years, corporate debt has gone from roughly 30 to 37 percent, household debt from 50 to 62 percent, Federal debt from 27 to 43 percent.

Again, I don't know what those figures portend, but it doesn't seem like corporate debt has changed all that disproportionately; but other debt has. Is that relevant to anything?

Secretary BRADY. I think it is always relevant when debt ratios go up, but I think you put your finger on it. It hasn't gone up all that much; and if you put the market equity of the corporations in there, I think it is about the same. If instead of doing it on a book value basis you do it on a market value basis, you can see it really hasn't changed all that much at all.

Senator PACKWOOD. Now, let me ask you this. I am reading from page 3 of your testimony. You say that "bridge financing, roughly 30 percent, often comes from an investment bank with junk bonds purchased by pension funds, specialized limited partnerships, insurance companies, banks, subsidiaries, and tax exempt institutions."

Then you say: "The largest part, roughly 55 percent of the total LBO, ordinarily would be debt secured by the assets and receivables of the target corporation. This senior debt would typically come from a syndicate of banks."

So, in these LBO's, the bulk of the financing is coming from what you and I would call banks, regular banks?

Secretary BRADY. That is correct.

Senator PACKWOOD. So, are you saying that the difference between the bank lending here for LBO's and what a bank in Japan might lend—is that the nature of the security that the bank takes is more insecure than whatever the asset is that a Japanese bank has when it makes a loan to a Japanese company?

Secretary BRADY. I am not sure I know exactly the system by which Japanese banks lend money; but in the typical LBO in this country, the bank does get a secured piece of paper, secured by receivables and assets. So, I think even the LBO's which have gone sour so far, the banks have come out pretty well. It is the junk bond holders and the new owners that have taken the beating.

Senator PACKWOOD. The junk bond holders know the risk they are taking when they get into it; they are a junior security. If that goes sour, I am trying to figure, Mr. Secretary, where is the harm? These are adult men and women taking a junior security knowing the risk. Where is the danger to the country?

Secretary BRADY. I think that is what we are trying to determine, but I think the danger to the country is in several places. One, what we have done is: This system has arisen during a time when we have had pretty good times. So, we haven't really tested whether it is a good idea to capitalize our corporations with such high degrees of debt in leaner times. So, it has been put together at a time when the wind was at our backs; that is number one.

Number two, I think some statistics ought to be put together, and we don't have them; maybe the Federal Reserve does. That is, how much of this debt is in our commercial banking system? Are we building up a tremendous amount of debt in our banking system which, forced to look at harder times, would put a real strain on the banking system itself? We don't know that, and I think those are some statistics we ought to have.

Lastly, I would say, Senator Packwood, I have a gnawing feeling that when so much of our national savings are being put into financial engineering as opposed to being invested in plants which produce new products or companies that produce new services at a lower price, that is not the system that has over the years been the one that has been most successful for our country.

Senator PACKWOOD. I would like to apologize; I am going to have to leave pretty soon, Mr. Secretary. Secretary-designee Mossbacher is on at 10:00 a.m., and I will go to the Commerce Committee for his hearing.

The CHAIRMAN. And I will have to go to help introduce him. [Laughter.]

Senator Danforth?

Senator DANFORTH. Mr. Secretary, in your testimony, you mentioned the fact that some people have suggested either reducing or eliminating the corporate interest deduction as a remedy to the perceived problem of LBO's; and you took a negative view of that idea. Some people have suggested that the House of Representatives' consideration of eliminating or reducing the corporate interest deduction was the reason for the stock market disaster of a little over a year ago.

Is it fair to say that it is the position of the Administration that it opposes the reduction of the elimination of the corporate interest deduction?

Secretary BRADY. Senator, I think the problem is in definition. How are you going to define it? I wasn't here, but I am told that the history of previous attempts to define what is equity and what is debt and therefore what can be the subject of an interest deduction has been unsuccessful. In fact, it was tried once and rescinded.

Senator DANFORTH. Do you think we should take this proposal off the table?

Secretary BRADY. I think what we ought to do is accumulate all the evidence we can get out of these hearings and determine whether we think that this trend is one that is serious—terribly serious—or disastrous. If it is disastrous, then I think maybe you ought to look at something such as that; but my opinion is that, if you ask me today what I really think, I think we ought to be concentrating on the fact that the free market has found its way around the double taxation of dividends and have done it in a very neat way.

Senator DANFORTH. You would rather make equity more attractive and debt less attractive?

Secretary BRADY. I am not sure, and I almost hesitate to mention this because we haven't got a study which would prove that you could do it; but I am not sure that if you were going to lean toward limiting the interest deduction that you ought to do it in such a way that that somehow alleviates the double taxation on dividend.

If there were a way in which you could bring down the ability of somebody to leverage a corporation to the extent of 90 percent to a more reasonable level and use the revenues so generated to give relief for the double taxation of dividend, I think you might see this whole trend disappear. I am absolutely convinced that this is the free market's answer to double taxation of dividends.

Senator DANFORTH. Isn't it also the free market's answer to the fact that the 1986 Tax Act eliminated the differential for capital gains?

Secretary BRADY. No, I don't really think so because, in a sense, the 1986 Tax Act made it less advantageous to deduct interest because we brought down the corporate tax rate.

Senator DANFORTH. It shifted the tax burden from individuals to corporations, and thereby made it much more likely that corporations would be looking for ways to avoid taxation, I would think. But from the standpoint of the individual investor, I don't see why an individual investor would find equity very attractive if there is no particular benefit from long-term capital gains.

My understanding of your position in the past has been that we should restore the differential for long-term capital gains. Now, I don't see why an investor would elect to buy low-yield equity as opposed to high-yield debt at this particular point.

Secretary BRADY. I think, Senator, the answer may be in the very nature of common stocks themselves. As I am sure you would agree, common stock is that portion of a company's capitalization that will increase in value if the corporation does well. You can't get that same kind of a play when you invest in a bond.

So, even though the tax rates may have changed, the common stock—if you believe in the future——

Senator DANFORTH. It certainly makes it less attractive, though, doesn't it?

Secretary BRADY. Maybe a little bit less attractive, but I would favor, as the President has, some change in the capital gains tax.

Senator DANFORTH. That is exactly what I am saying. In other words, when we eliminated the differential for capital gains, when we taxed capital gains the same as ordinary income, that was to say to the investor: Why would you want to invest in equity when you can get a much higher yield on debt?

Secretary BRADY. I agree with you. I thought you were talking about the whole existence of the LBO trend, had the 1986 Tax Act made that more advantageous. I am not sure it has because the corporate tax rate goes down; but certainly, if you were trying to increase the attractiveness of common stocks, a differential for capital gains is a good way to do it.

Senator DANFORTH. I would like to make just one other point and ask if you would look into it; I don't expect you to have any particular answer now. A lot of people I have talked to have said that one of the problems with corporate America today is the separation between management of a company and ownership in the large conglomerates.

One thought would be to provide for, say, the elimination of taxes on capital gains by employees of corporations so that they would have a tremendous incentive personally to make long-range decisions as opposed to taking everything they can out of a corporation in the form of salaries or perks.

I wonder if the Treasury could take a look at the possibility of, say, eliminating the tax on capital gains by people who are employed by the corporation. Maybe you would want a very long holding period if that were to become the case, but I think that it would be something that would be worth exploring.

Secretary BRADY. All right. We will look into it.

Senator DANFORTH. Thank you.

The CHAIRMAN. Thank you very much. Senator Caucus?

Senator BAUCUS. Thank you, Mr. Chairman. Mr. Secretary, I first compliment you on a very good, solid but cautious statement; and I particularly agree with you when you say the bottom line really is America's competitive position. It is somewhat important to look at the difference between debt and equity, and it is somewhat important to look at all the various ramifications of LBO's; but I think when we look at all this, the real question is: How do all these developments ultimately affect the United States' competitive position compared with other countries?

I agree that a lot of management is soft. Sometimes, members of Congress get a little soft. Every six years we in the Senate face competition when somebody wants to run against us, and I think that is good. That is very good for us; that is very good for the system. I think it is also good that management faces competition, certainly to the degree that they are subject to a potential takeover or a potential LBO.

But I also agree with you when you say you have a growing feeling that something is not quite right here, that there is a lot of fi-

nancial engineering going on in our country perhaps when other countries are—I think in your words—laying the foundation for more growth and development.

My question is: Even though Treasury has not yet made any specific recommendations, will the Administration make some recommendations for legislative changes, either in the tax laws, in the security laws or in other laws? And if so—and I don't want you to "scoop" yourself or prejudge yourself—what are the kinds of things that the Treasury might recommend to the Congress.

Secretary BRADY. We really don't have a solution, Senator Baucus, at this time. As I mentioned to Senator Bentsen when we first met on this subject, I have the gnawing feeling, and I think the President has the gnawing feeling, that this is a trend which may very well be all right, but it is disturbing as you look at it—over-leveraging some of our major companies. But I think we have to go back and look at what is the root cause.

I am totally convinced that the root cause is that the market has found its way around the double taxation of dividends. I don't want to be repetitive, but when you put together a leveraged buyout, what you essentially do is you eliminate the 34 percent that used to go to the Federal Government in the form of taxes; and you take that 34 percent and spread it over junk bond holders and senior debt holders. It gives them a higher rate of return so that they are very happy to buy the bonds and provide more funds that way in total capitalization for the company than it used to have in value as a corporation capitalized by equity.

I did mention financial engineering; but in a certain sense, it is a credit to the ingenuity in this country that they found their way around the double taxation of dividends, which is something—as we look across the world—where some countries give partial relief to, some total relief.

Senator BAUCUS. But how is that affecting our competitiveness?

Secretary BRADY. How is it affecting our competitiveness?

Senator BAUCUS. Yes; or is it?

Secretary BRADY. I think if we——

Senator BAUCUS. Do we have enough evidence to know?

Secretary BRADY. We may not have enough evidence, but I think that if you were to say if this trend continues and grows, that as you put more and more debt on U.S. corporations, perhaps they are less able to invest in research. Perhaps they do spend less time in developing new products, although the early returns on studying the corporations that have been subject to LBO's indicate that they are generally corporations that are in businesses that haven't invested a great deal of money in R&D to start with.

So, to the extent that this trend grows and becomes bigger and bigger, I mean if it went to an extreme and we did this to the whole United States, I think it would be a bad thing. The problem is not, in my mind, in assessing what is going on; it is what to do about it. If we had no strictures in our present budget negotiations, I might be up here telling you to get rid of the double taxation on dividends; but we have revenue problems in this country. So, we can't do that right now.

So, maybe we ought to go to some sort of a balanced system of limiting the interest deductions and taking that money that we get

from limiting those interest deductions and applying it to reducing the double taxation on dividends.

Senator BAUCUS. On that last point, given the position of the Commission you headed, did the House's proposal to limit

Secretary BRADY. I am sorry, Senator; I didn't hear you.

Senator BAUCUS. Given the position of the Commission you headed after the stock market crisis, I would like your opinion on the degree to which the House proposal to limit the interest deduction had some adverse effect in contributing to the October 19th crash.

Secretary BRADY. I think we cited a number of factors; that was one of three or four. What I am suggesting here, I shouldn't think, would have the same effect because at the time you might limit interest deductions, you would also increase the returns for equity. So, I don't think that that would be the case here.

Senator BAUCUS. Thank you.

The CHAIRMAN. Senator Bradley?

Senator BRADLEY. Thank you very much, Mr. Chairman, and let me welcome you again to the committee, Mr. Secretary; and I appreciate your testimony today. As I have heard your testimony today—and again our consideration is what is the role of the Federal Government in the phenomenon of leveraged buyouts and what should it be—you have concerns about leveraged buyouts because we don't know how they will fare in lean times, with implications for corporate failure perhaps.

Then, you also expressed concern about contamination of the financial system, the banking system itself; and you said that there could very well be some opportunity costs for our society and economy if all of our efforts are in financial dealings and not in the production of real goods.

As I understand, that is basically the series of concerns and warning signals that you gave us today.

What I would like to focus on is to try to be a little more clear as to the costs and the assumptions of what you see as the Federal role. For example, one commentator said recently that the reason the Federal Government should be interested in this is because he makes the assumption that the Federal Government would never let some major corporations fail. In other words, they would bail them out. Now, do you operate from that premise?

Secretary BRADY. I think that past history is mixed, Senator Bradley. In the case of Lockheed and Chrysler, we stepped in; and in the question of a great many others, we didn't. So, I don't know if there is a defining way to look at it.

Senator BRADLEY. If I could just make a distinction? Lockheed and Chrysler were related to the defense sector; Oreos, you know, aren't. So, basically, your view is that you hold that out as a possibility?

Secretary BRADY. The possibility that the Government might step in? I think you know more about that than I do, but it seems to me they do step in sometimes; in others, they don't.

Senator BRADLEY. All right.

Secretary BRADY. The general presumption is that the Government won't.

Senator BRADLEY. Do you believe that—as I think you have said—one of the reasons for the phenomenon was the reluctance of corporate managers to pay out dividends or pay out earnings to their shareholders?

Secretary BRADY. No, sir. What I am saying is that interest gets taxed only once, whereas by the time dividends get to come to shareholders, it gets taxed twice. Now, this has been something that has been long standing in this country for any number of years.

What has happened is that the advent of the arbitrage community and the junk bond community have provided a method by which people can effectively change the rules of the game. They can take a corporation which was previously capitalized mostly by equity, which was doubly taxed when the equity holder finally got his return, and change it into a corporation that gets taxed only once because what they do is arrange the capitalization so that, by the time the net income line is derived, the interest charges eat up the pretax income; and there is no tax to be paid.

So, the 34 percent that used to go to the Federal Government now goes to a new class of security owners. I don't want to be didactic about this, but it shouldn't be a big surprise to any of us, although it did come as a surprise to me when I finally thought about it long enough, that if you take 34 percent of the income that used to go to the Federal Government and give it to a new class of shareholders, you can create a higher value for the company.

Therefore, the guy who is in the business of doing LBO's can create a higher value with the same stream of income and go out and make an offer to shareholders; and that is what the LBO trend is all about.

Senator BRADLEY. But you say today that to try to do something about that in terms of making equity more attractive with regard to dividend exclusion or dividend integration is too expensive because, if you look at dividend integration, it is somewhere between $20 and $40 billion a year. A sliver of that, and even if it is 10 percent at the upper end, is $4 billion a year.

So, you are basically saying that this is a difficult one to solve in this kind of budgetary circumstance.

Secretary BRADY. I am not sure—in fact, I am sure that we don't have the answer at this particular moment; but if I were looking for the answer, what I might do, Senator Bradley, is to come up with a system that limited interest deductions—if you were going to do anything. If you decide after listening to all of these hearings that something really has to be done—I don't mean just the Senate Banking Committee—I think we should look in the area of perhaps limiting interest deductions but taking the money that that generates and putting it back in on the other side of the equation whereby we reduce the double taxation on dividends.

Senator BRADLEY. One last question, and that is regarding the extent to which you are concerned about the tax base eroding. My point is that, if you are concerned about the Government getting less taxes because of LBO activity, aren't you really saying that you think the decrease in corporate taxes collected from leveraged companies—the decrease in corporate taxes collected from those

companies—has to exceed the increased capital gains collected from all of the tendered shareholders?

Secretary BRADY. Yes. In the initial years, from our first looks at the thing, it looks like about a wash; but it is questionable what the long-term effects are.

Senator BRADLEY. So, it is a wash to the Federal Government due to tax revenues?

Secretary BRADY. Yes, because you get revenues from sales of stocks, some of which were purchased at lower prices and some at higher prices.

Senator BRADLEY. Thank you.

The CHAIRMAN. Thank you, Senator. As I had previously stated, Mr. Secretary, I am going to have to turn this chair over to Senator Baucus as I have to introduce another prospective Cabinet member before another committee; but I am most appreciative of your attendance and your participation.

Secretary BRADY. Thank you, sir.

The CHAIRMAN. Senator Riegle?

Senator RIEGLE. Thank you, Mr. Chairman. As you know, Mr. Secretary, we will get into this issue as well in the Senate Banking Committee; and we have already made some requests for information and thinking from you. And I know that is in process; so, this leveraged buyout story will be looked at and examined in a number of different areas, appropriately as it should be.

I would like to ask you this question at the outset. That is: Is it the intention of the Bush Administration to develop some kind of a plan to deal with this explosion of LBO's which you described as giving both yourself and the President a "gnawing feeling"?

Secretary BRADY. Senator Riegle, I think I mentioned before you joined the hearing that we see it as a problem; we don't know if it is an overwhelming problem. It is a trend that has caught everybody's eye, and what we are doing is studying it like everybody else. We do not have a firm conclusion at this time, but I expect we will in the next several months.

Senator RIEGLE. So, you are still at the examination stage? You are not sure that there is a need for a remedy then? I take it that that is the bottom line?

Secretary BRADY. You keep hoping, Senator Riegle, that the activity will right itself. I mean, I think if it continues—I mean, it is growing by leaps and bounds at this particular point in time. If the rate of increase continues, I think it is something we should look into with very, very serious intent.

Senator RIEGLE. I am hearing that from a number of people. I have an opportunity to visit with a number of CEO's, as do you; and of course, more and more are expressing a concern about the fear of the takeover being aimed at them, and it is affecting their psychology.

I also think it is affecting investor psychology. Quite apart from the issue of the amassing of all the debt and how that debt overhang may endanger us in the next recession, I think psychology is changing. If you look at the transactional volume on the exchanges, for example, it is off very substantially.

Now, the crash and other things have had an impact on that, but a very large part of the volume is centered around these stocks

that are in play—the so-called "takeover stocks." And you see these takeover plays get larger and larger—RJR Nabisco being one of the most recent and perhaps the largest one so far—it seems to me that you are seeing a psychological effect on how managers manage and plan their time horizons as to how they apply corporate resources to the present versus the future.

And it seems to me that you are also getting an investor impact. When I see the new issue and the secondary market dwindle as it has, both since the crash and also partly in response to the whole leveraged buyout situation and the uncertainties that creates, it seems to me we are starting to get multiple effects that are out there.

You used the phrase "gnawing feeling"; I have the same kind of a gnawing feeling. It is being confirmed because I see an awful lot of very serious financial players—a lot in your old business that come by—and feel very uneasy about it.

Senator BAUCUS. Senator, I wonder if you might refrain? As I understand it, Mr. Secretary, you have to leave at ten minutes after 10:00 a.m. Is that correct?

Secretary BRADY. That is correct, Senator.

Senator BAUCUS. And we have three Senators remaining who have not yet had a chance to ask questions. I think I will reduce the time from five minutes to three minutes each for the remaining Senators.

Secretary BRADY. Senator Riegle, could I just make a few comments on what you said, because I think you are right on the mark. First of all, corporate America is alarmed by the LBO activity; but I think their sense of alarm should be blended to some extent with the fact that a great deal of this activity is financed out of the pension funds which are part of their corporation's activities; and this brings us into the ERISA laws which are not the purview of the Treasury, but the purview of the Labor Department.

I think that, as we have concentrated in this hearing on some of the technical parts that can help, we ought to look carefully at the ERISA laws to make sure that we haven't put our pension funds in a position where they have to immediately sell at a higher price. If the stock is selling at $40.00 income and somebody offers them $60.00 a share, I wonder whether our ERISA laws don't almost compel the pension fund manager to take that offer.

Senator RIEGLE. Right.

Secretary BRADY. I think what we ought to do is have a system in this country whereby we can believe the long-term plans of our corporate management and boards. If they want to invest it long-term, if they want to put money into research and development and decrease profits for a short period of time, and tell their investors that this is what we are doing—we are going to develop a new drug; we are going to develop a new camera—then I think there ought to be some system whereby that manager isn't penalized by some guy who comes in and makes an offer at $15.00 over the market.

Now, I do have to say that the corporations that are complaining about this are also the people who manage the pension funds, and they are in a sense financing their own extinction; and it may be the ERISA laws or it may not be, but I think we ought to stand up

to this challenge, to make our laws in this country so that people can run their corporations with a view to the long term.

Senator BAUCUS. Thank you, Senator Riegle. Senator Daschle?

Senator DASCHLE. Thank you, Mr. Chairman. Mr. Secretary, we have talked a lot about remedies this morning, and I appreciate your comments and the insight you have provided. I am still trying to get a better grasp of the problem itself, especially under certain scenarios.

The one that troubles me the most is the one you addressed in your testimony concerning vulnerability to the business cycle. We haven't really talked about that a lot, but you addressed it just a moment ago—as part of your answer to Senator Riegle with regard to our pension obligations. In a recession, given the fact that you could easily foresee a situation where LBO's would not have the ability to pay off their loans, facing higher interest rates and perhaps bankruptcy, given the fact that the Federal Reserve has just recently reported that about 9.9 percent of commercial loans in large banks are LBO loans, could you elaborate on the ramifications of this current situation in the case of a recession?

Secretary BRADY. I think, Senator Daschle, every generation has to sort of inch its way up on debt and then see what happens to you when business conditions turn down. And I don't see anything in the economy right now that makes me think business conditions are going to turn down; but we have to have an eye on the future.

So, the concern that I raised and the one you have picked up on is just plain prudence. I just think it is a question of how far things go and whether the market is going to self-correct this thing or whether the Government has to take a little sterner view of it and get into it itself.

Senator DASCHLE. But have you done any projections, any kind of study, of the impact, given the nature of LBO's today, given the fact as I said that about 10 percent of all commercial debt in large banks can be attributed directly to LBO's? What financial implications for financial institutions today would a recession have?

Secretary BRADY. Senator, we don't have any such studies, and I don't know how you make them because you would have to assume that the rate of increase in LBO's would continue or level out or what. My own simple-minded approach to it says that 10 percent is probably not too bad, but I wouldn't want to see it at 25 percent.

Senator DASCHLE. But in your view——

Secretary BRADY. I think the chairman of the Federal Reserve feels that way. Excuse me.

Senator DASCHLE. I guess I am out of time. If you could in some way enlighten us as to, for example, one or two of the major LBO's that we have seen in the last couple of years, if they were to declare bankruptcy in the case of a recession, what implications in terms of Federal policy for the pensions themselves, as they relate to commercial lending institutions, what kind of ramifications would that have in a recession?

Senator BAUCUS. Mr. Secretary, you can answer, but I must say that if you have more time, that is fine—that is, more time after 10 after 10:00 a.m.

Secretary BRADY. We have to leave at 10 after 10:00 a.m. for a meeting at the White House. Maybe I could come back at some

point in the future, if that is suitable. Senator Daschle, let me just answer you quickly. I think we have seen one or two of these LBO's go sour, and it hasn't had an effect yet. I think it would probably take a lot more than one or two.

Senator BAUCUS. Thank you, Senator. Senator Moynihan?

Senator MOYNIHAN. Thank you. Not to be antsy, but just to be asked: In 1969, Congress gave the Treasury the ability to distinguish between corporate debt and corporate equity. It took you a long while to be able to issue regulations—it was not until 1980. And then, it turned out they could be gamed, and you withdrew them.

You have mentioned the problem of equal treatment of debt and equity in the Tax Code. Could I then ask if you have any plans to revisit the relevant portion of the Code—Section 385? Please answer briefly, if you can.

Secretary BRADY. You bet. We have looked at it for the very same reason that you have asked the question because it is important right now. Our initial thinking is that the definees are quicker and swifter than the definors; we found that out in the past, and we haven't come up with a definition right now that changes our view on that.

Senator MOYNIHAN. But you do have that power?

Secretary BRADY. We do have that power.

Senator MOYNIHAN. Yes. Perhaps we can talk about it some other time. May I apologize? I thought I was arriving early—[Laughter].

I even had an opening statement. [Laughter.]

Senator BAUCUS. Thank you very much, Senator. Senator Symms?

Senator SYMMS. Thank you very much, Mr. Chairman, and my colleagues. Mr. Secretary, I think it is nice for you to be here today, and I might just say to my colleagues that I am pleased to be back on this committee and have an opportunity to deal with these issues that I think are so important to the country. I think it is important, Mr. Secretary, that you came today because I do think it is important that the general public know that our Treasury Department is interested in what is happening to the economy and is following these issues.

But I want to state at the outset to all my colleagues and to the Treasury that my position is that we should not be rushing in to make any changes in current laws that affect leveraged buyouts, that is unless we wanted to do away with the anticapitalistic double taxation of dividends; but I don't see much hope of getting that done under the current budget situation today. But I do think that there is a case to be made that, regarding the Tax Reform Act of 1986, many people think that it was a progressive step in the direction of equity and elimination of special categories and is making our Tax Code more efficient.

So, I guess what I am saying is that I think we need to leave things alone generally for now. I know the Secretary is in a hurry; I do have just one question that I would like to ask, but I would like to ask unanimous consent, Mr. Chairman, to insert the remaining part of my remarks in the record and a research paper that was recently released by the University of Chicago by Profes-

sor Abbie Smith of the Graduate School of Business at the University of Chicago on the subject of LBO's, "Corporate Ownership Structure and Performance: The Case of Management Buyouts," January 1989. I ask unanimous consent that that be made part of the record.

Senator BAUCUS. Without objection, it will be included.

[The research paper appears in the appendix.]

Senator SYMMS. And then, Mr. Secretary, the question I would pose is: If in fact the Congress did decide in its wisdom, and the Administration, to do something that would impact this, isn't there a great risk that this could trigger enormous backing away from the U.S. equity market stock market by investors and create a market selloff and so forth? And isn't there a great risk for us to give the impression that something may be done?

Secretary BRADY. I think there is, but we would almost have to see what it was, Senator Symms, before you could make that conclusion. But I hope nothing I have said would indicate that that was my feeling. I think we ought to look at the information that comes to this committee and be considered because it will have an effect.

And we also want to make sure that we don't disadvantage our own U.S. corporations against those that we are competing with abroad.

Senator HEINZ. Mr. Chairman, in the interest of time, I would like to submit some written questions.

Senator BAUCUS. Without objection.

Senator BAUCUS. Thank you very much, Mr. Secretary. You have been very thoughtful, very cautious, and very patient; and we thank you for you statement. The hearing is adjourned.

[Whereupon, at 10:10 a.m., the hearing was recessed, to be reconvened on Wednesday, January 25, 1989.]

APPENDIX

ALPHABETICAL LIST AND MATERIAL SUBMITTED

Testimony By
The Secretary of the Treasury
Nicholas F. Brady
Before the Senate Finance Committee
Tuesday, January 24, 1989

Mr. Chairman and Members of the Committee:

It's a pleasure to be here today to discuss with you the growing phenomenon of Leveraged Buyouts (LBOs) and related transactions. The effect of LBOs on the American economy has become a matter of increasing concern both to Wall Street and Main Street as the size and number of LBOs have grown. One recent transaction approached $25 billion in size, suggesting that, if anything, the pace of LBO activity continues to accelerate. The business sections of our newspapers and nightly TV stock market reports abound with stories of the returns earned by investors in LBOs. As might be expected, that level of success attracts additional capital. There is now an estimated $30 billion in funds organized for equity investment in LBOs, which, when expanded by the associated debt, would support between $250 and $300 billion in future LBOs. The availability of such capital generates its own demand, as the pressure on managers to invest their assets spawns a search for new LBO candidates.

In examining the LBO phenomenon, we should not restrict our concern to LBOs alone. Just as investors pool their funds to create LBO equity funds, companies using the equity in their own operations leverage themselves up in order to engage in exactly the same activity. I call these transactions Leveraged Takeovers -- LTOs. As a matter of simplicity, in the course of my testimony I will address my remarks to LBOs, although they should be read to include LTOs as well.

I. OVERVIEW

Competitiveness. Perhaps the issue that should guide our analysis of LBOs is the competitive position of the U.S. corporate sector. Increasingly we find ourselves in a global economy, with American businesses under pressure to compete and maintain the markets for their products. Their ability to remain competitive is, of course, central to our economic future. If we are competitive in the world economy, we will be able to provide the standard of living that our citizens desire and the jobs that they deserve. We ought, therefore, to focus on whether LBOs and the changes they produce in corporate financial structures hurt

or improve our competitive position. That same standard should also be applied to measures which might be proposed to regulate LBOs in the future. Thus, even if we conclude that LBOs have adversely affected the corporate sector, we should weigh carefully whether proposals to restrict LBO activity will, in fact, aid American business, or only make more difficult the competitive challenges we face.

Need for More Data. The Committee will hear much testimony on the effects of LBOs. Some contend that LBOs reflect ordinary market forces and result in a more efficient corporate structure with improved investment of industrial resources. Others see a pattern of increasingly risky transactions, a sign that LBO activity, as with prior speculative markets, has begun to spiral out of control. They foretell a series of overpriced, overleveraged transactions, leaving the corporate sector increasingly vulnerable to an economic downturn.

These hearings will enable the Committee to get beyond much of the rhetoric that surrounds LBOs to examine and develop the data we need in order to reach an informed judgment on how LBOs have affected the American economy. Given what is at stake, we should proceed carefully through the evidence, and ensure thorough consideration of what is plainly a complex question.

II. BACKGROUND

LBO Structure. The typical LBO involves the acquisition of a public corporation by a small investor group, frequently including the target corporation's management and/or one of the LBO funds that pool capital for this purpose. The investors would ordinarily operate through a shell acquisition corporation, which would either merge with the target or make a tender offer for its stock. In either event, the target shareholders would surrender their equity, common stock, for cash and/or debt of the acquisition corporation.

The equity supplied by the investor group typically represents 15 percent of an LBO's total capitalization. Around one-third of an LBO's total capital would be subordinated debt, initially in the form of bridge loans which would later be replaced with so-called junk bonds. The bridge financing (roughly 30 percent) often comes from an investment bank, with the junk bonds purchased by pension funds, specialized limited partnerships, insurance companies, bank subsidiaries and tax-exempt institutions. The largest part (roughly 55 percent) of the total LBO financing would ordinarily be debt secured by the assets and receivables of the target corporation. This senior debt would typically come from a syndicate of banks, but may to a smaller extent involve insurance companies and specialized limited partnerships.

Corporate Trends. The surge in LBO activity in recent years can be seen as the convergence of two trends in the structure and capitalization of American corporations. The first, and more fundamental, is the replacement of corporate equity with debt and the consequent leveraging of corporate balance sheets. This trend is in part a product of LBOs and similar transactions such as LTOs. Independent of an acquisition, however, a corporation may repurchase its outstanding stock with indebtedness or with cash attributable to indebtedness. LBOs are, however, a principal occasion for corporations incurring new indebtedness, and many corporations that have issued debt to repurchase stock have done so as a defensive maneuver to head off a possible LBO or LTO.

The growing number of LBOs also represents a trend toward privatization of formerly public corporations. The movement by large U.S. corporations to operate privately rather than through public equity markets would not necessarily be a matter of

concern. Private ownership frees a corporation from the pressures and the short-term perspective of the stock markets and may well be a prudent strategy, depending on a corporation's business and its need for investment capital.

III. LEVEL OF ACTIVITY

LBOs. The significance of the corporate trends toward additional leverage and private ownership is reflected in recent data concerning LBO activity. From 1978 to 1983, the total value of LBOs was around $11 billion dollars. In the five years since, LBOs totaled $160 billion, with 1988 alone accounting for over $60 billion.

The data also reveals a lesser trend of LBO activity concentrated in industries better able to support substantial leverage. Thus, a disproportionate share of LBOs have occurred in nondurables manufacturing, retailing, and services, all relatively noncyclical industries with characteristically strong cash flows.

Corporate Debt. An analysis of individual LBOs suggests that these transactions have introduced unprecedented levels of corporate leverage. Thus, the level of debt in some recent LBOs leaves the corporations unable to service their debt with existing cash flows. It is becoming apparent that many such transactions require immediate asset sales at higher prices in order to reduce the debt to a manageable level. In other cases, the corporation will be required to cut back on non-interest expenditures; for example, expenditures for research and development and replacement of capital goods, in order to provide an effective debt retirement schedule.

The extreme leverage in recent LBOs is only partly reflected in aggregate data concerning corporate debt. Most balance sheet measures of corporate debt indicate a significant increase in leverage over the past few years, with current levels at a historical high. Other measures, however, suggest more moderate increases in leverage. For instance, if debt and equity are taken at market rather than book value, current leverage ratios, although rising, remain well below the peak levels of the mid-1970s, and are in line with the average over the last fifteen years. This is consistent with the ratio of net interest expense to cash flow, perhaps the most accurate measure of a corporation's ability to service its debt. The ratio, although currently rising, remains below the peak levels reached in the early 1980s.

Ultimately, however, the significance of corporate leverage is a question of individual corporations' capacity to service their debt. Aggregate data concerning debt ratios reflect averages. And just as one may drown in water that averages two feet deep, average debt ratios cannot answer whether there are significant individual situations of dangerous overleverage. It is important to know whether individual cases of extreme leverage are isolated, and perhaps attributable to special circumstances, or reflect instead an accelerating trend in American industry.

Data addressing these and related questions is being developed at Treasury and by some in the private sector. We should recognize, however, that past experience is not a particularly good measure of the future prospects for a highly leveraged corporation. Existing LBOs have thrived in a period of extended economic expansion. They have not been subjected to the test of leaner times. It is certainly not the policy of the Bush Administration to arrange such a test. But how well these highly leveraged entities survive can not be answered by past data alone.

IV. CAUSES FOR CURRENT LEVEL OF LBO ACTIVITY

Some view LBOs as a rational strategy to maximize the value of corporations and their assets. Part of this strategy relates to the tax system and its discriminatory treatment of equity versus corporate debt. Since interest payments are deductible, but corporate dividends are not, there is a substantial tax advantage that accrues to LBOs and other transactions that effectively substitute corporate debt for equity. It should come as no surprise that removing the burden of a 34 percent tax rate from a corporation's income stream can arithmetically increase the value of a corporation's capitalization. The substitution of interest charges for pre-tax income is the mill in which the grist of takeover premiums is ground.

In addition, LBOs may generate new efficiencies in corporate management and financial structures. For corporations in mature industries, where cash flows are strong but opportunities for internal growth limited, an LBO may be a logical mechanism for distributing excess cash resources, allowing the market to reinvest the funds in more productive activities. Similarly, LBOs in some cases force corporate managers to abandon unproductive investments or extraneous lines of a corporation's business. Thus, some have seen in LBOs and the divestitures they trigger a process of corporate deconglomeration, reversing the conglomerate merger activity prevalent in the 1960s and early 1970s.

Although tax and efficiency considerations may be an important part of an LBO, they do not fully explain the extent and timing of LBO activity. The tax advantages of debt capitalization have existed for most of the history of the corporate income tax. Some analysts believe that the changes in the 1986 Tax Reform Act, including the reduction in the corporate tax rate and the elimination of the so-called General Utilities doctrine, may actually have diminished the tax benefits available from leveraged acquisitions.

Similarly, there does not appear to be anything in recent corporate management that would have suddenly made LBOs attractive. On the contrary, the corporate circumstances that arguably permit efficiency gains as a result of an LBO predate by a number of years the surge in LBO activity.

In sum, viewing LBOs as transactions that maximize shareholder value does not explain why it is only in the last few years that LBO activity has taken off. So what has happened? Our own analysis suggests that other factors have contributed importantly to the development of LBO activity at its current level. In part, these factors, which I will discuss here, have simply facilitated a market in which LBOs were made feasible.

Junk Bond Market. A key factor in the increase in LBO activity is the emergence of a junk bond market, which has supplied much of the debt capital on which LBOs are based. Prior to the late 1970s, junk bonds were generally fallen angels -- obligations that had been of investment grade when issued but were later downgraded because of problems that had arisen with the issuer's credit. More recently the junk bond market has developed into a market for corporate debt that, because of the debt's subordinated status and the corporation's substantial other indebtedness, is below investment grade when issued.

A central purpose of the present-day market for junk debt has been to facilitate directly LBOs and LTOs. The substantial leverage characteristic of LBOs dictates that much of the debt capital will necessarily be of an extremely junior grade. In the past, neither banks nor the traditional bond markets provided for such transactions and consequently, an alternative source of

financing evolved. In sum, the junk bond market has vastly facilitated increased LBO and LTO activity.

Arbitrageurs. The current volume in LBOs is also partly attributable to the growth in arbitrage activity. Arbitrageurs purchase the stock of corporations thought to be acquisition candidates, hoping to sell the stock at a higher price if and when the acquisition is concluded. By definition, arbitrageurs are not long-term investors, and the nature of their activity and the demand for high rates of return on their available capital require that they turn over their investments in a reasonably short period of time. Because of arbitrage activity, the perception that a corporation is "in play" tends to become a self-fulfilling prophesy. Once arbitrageurs buy up the stock of a corporation, the willingness of the corporation's shareholders to sell is established, and management's ability to resist an acquisition is effectively reduced. The certain knowledge that arbitraguers own working control of the target company's stock in turn makes sure that the potential acquirers bidding for the corporation's stock will succeed.

Bargain Stock Prices. A third factor responsible for recent LBO activity is the perception that many stocks remain undervalued. As LBO and LTO operators have come to focus on the value placed on a corporation by the stock market, as compared with the replacement cost of its assets, and the higher sales values of component parts, the opportunity for bargain purchases has become apparent.

Strong Economy/Speculative Returns. Much of the current momentum behind LBO activity may simply reflect that, to this date, prior LBOs have largely been successful. Many have questioned whether the same pattern of success would have developed if the economy had been less robust in the last several years. At the moment, however, investors do not seem discouraged by such concerns, since they have rushed to get in on the spectacular returns that some prior LBOs have generated.

Advisory Fees. A final contributing factor in the proliferation of LBO activity is the ability of investment advisers, banks, underwriters and LBO fund managers to earn substantial up-front fees in the transactions. Such fees can total nearly 6 percent of the corporation's purchase price, and lend considerable momentum to LBO activity. These fees are earned up front, largely divorced from the long-term risks in the transaction. The LBO sponsor, investment banks, bond underwriters, syndicating bank and others earn substantial income if an LBO is completed, and thus have strong incentives to identify LBO candidates, arrange financing, and conclude transactions. Sadly these same parties may have relatively little, if any, investment in the long-term success of the new enterprise. Given this arrangement, it may very well be that the net effect of LBOs is a financial snipe-hunt, where the new long-term investors, flashlight in hand, are left holding the bag.

V. THE EFFECTS OF LBOs ON THE CORPORATE SECTOR

Corporate Management. LBOs have been defended by some as a positive check or discipline on corporate managers. In some cases, LBOs may well correct some of the deficiencies in the formal mechanisms of corporate governance. Our system of corporate democracy provides for a balance between continuity and change although it is viewed by some as exceedingly difficult for management of a public corporation to be removed by shareholder vote. Thus, management, once established, may pursue growth policies that aggrandize the corporation's position, but do not necessarily maximize the shareholders' investment. An LBO can be viewed as a sanction of such policies, since it replaces old management with a new team.

The entrenchment of corporate managers, free of effective control by the shareholders, may be a matter of legitimate concern. I find it difficult to accept, however, that LBOs and the psychology that feeds them are a sensible form of corporate governance. As the pace and scope of LBO activity have grown, I fear we are reaching a point where management is simply not disciplined toward more productive investment, but is robbed of any ability to pursue policies not in step with current market attitudes. In particular, to the extent markets become preoccupied with current earnings and cash flow, managers lose the flexibility to pursue long-term investment strategies. At a minimum, the corporate manager that pursues growth at the expense of short-term earnings may be threatened with the loss of his company.

We should not be surprised if corporate managers choose not to run that risk, and instead embrace what is currently fashionable, even though not in the long-term interest of their corporations. If that attitude becomes prevalent, we should be concerned whether U.S. corporations will make the commitment to research and development and other growth oriented strategies necessary to maintain their future competitiveness in a global economy.

We should also recognize that the plight of the corporate manager may not be relieved by privatization of the company. A buyout of a corporation's public shareholders does free it of stock market pressures, and thus in theory permits the corporation to pursue growth oriented policies without regard to the short-term effect on its earnings or stock price. As a practical matter, however, we are concerned that the financing in a typical LBO leaves management still focused on short-term performance, since substantial cash flow must be generated simply to meet debt service requirements.

Vulnerability to Business Cycle. The cash flow burdens of substantial leverage make a corporation more vulnerable to cyclical movements in the economy or to periods of slow economic growth. Debt service that may be manageable in periods of economic growth may become unmanageable if a corporation's revenues fall. Some argue that LBO debt can be restructured in the event of a downturn. Where a bankruptcy is forced, however, there may be significant costs in lost jobs, forced sales, and distraction of management. Moreover, the costs of bankruptcy may extend to the government, which effectively guarantees certain of a corporation's pension obligations for defined benefit plans through the Pension Benefit Guaranty Corporation.

Corporations and their lenders obviously take some account of bankruptcy potential, and what level of debt is prudent remains dependent on a particular corporation's situation. The many individual instances in which an LBO has dramatically increased a corporation's leverage, and the apparent market acceptance of these transactions, suggest that corporate managers and the financial markets have placed greater emphasis on the benefits than the risks of leverage. This attitude may be attributable to the sustained economic growth of the last six years, which has permitted the optimistic assumptions that appear to underlie some transactions to remain untested.

Risk to Banking System/Financial Institutions. The risks attributable to increased corporate debt fall also on investors. Some level of risk is inherent in all investment, and there would seem to be no reason for concern where individuals or business investors knowingly undertake the risks involved in acquiring LBO debt. However, much of the capital invested in LBOs comes from banks, savings and loans, pension funds, insurance companies and other institutional investors which are in effect investing on behalf of the individuals whose savings they control. It should

be noted that depositors in banks and savings and loans and participants in defined benefit pension plans have the benefit of a federal guarantee of their deposits.

Many observers have questioned whether LBOs are appropriate investments for financial institutions, given the levels of risk involved. Although there is an understandable desire on the part of such institutions to maximize returns on their invested capital, such desires must be balanced against their fiduciary obligations to avoid substantial commitments of capital to high risk investments. This concern is sharpened by a history of overcommitment, driven by fees and fashion, to types of loans which subsequently proved to be problems.

In this regard, a number of state insurance regulators have proposed restrictions on the extent to which insurance companies can hold such debt. I am also encouraged to see that Chairman Greenspan of the Federal Reserve Board and Comptroller of the Currency Clarke have indicated their intent to review carefully the level of LBO investments by federally chartered banks.

Fairness to Shareholders. A concern expressed by some is whether LBOs permit Wall Street insiders and corporate managers to profit at the expense of ordinary investors. This is a legitimate concern, but one which was more relevant in the early days of LBO transactions.

More recently, however, we have seen that in most cases the market will operate to ensure that shareholders receive full value for their stock. As we have witnessed in recent transactions, a management initiated LBO may trigger offers from outside interests, with the ultimate price for the company's stock determined in an auction-like bidding process. This process works best to establish a fair price when all bidders have access to the relevant information concerning the corporation's business. And, corporate boards of directors, with the encouragement of the courts, have tended to insist that the corporation's books be opened to all potential bidders.

Other Constituencies. A final but important area of concern is the effect of LBOs on corporate constituencies other than the shareholders. In previous testimony to the Senate I have cautioned that we should be careful not to march to the drumbeat of single dimension philosophies. Thus, while shareholders may realize large premiums from an LBO, the corporation's employees, bondholders and the communities in which the corporation is located may all be adversely affected. Employees may lose their jobs if the corporation is forced to retrench or if divisions are sold in order to retire debt. Such job losses have significant collateral effects on the communities in which the employees work.

The clearest losers from a financial viewpoint in some LBOs are the corporation's pre-existing bondholders. The drop in the corporation's credit rating translates directly into a reduction in the value of their bonds. However, this is arguably a situation where the affected can take care of themselves, since a variety of contractual devices are available to protect bondholders in the event of an LBO or similar transaction affecting the corporation's credit rating.

VI. REMEDIAL MEASURES

A. Tax Proposals. As I indicated earlier, I do not believe the recent surge in LBOs should be seen as driven only by tax considerations. The tax incentives for debt capitalization are long standing, and recent legislative changes may have actually diminished the tax benefits available from leveraged

acquisitions. However, tax considerations remain an important part of corporate financial planning, and we should be concerned about the tax system's bias against equity capitalization.

Because we subject income on corporate equity to double taxation, while interest payments, like wages, are taxed only once, a corporation throughout its existence is encouraged to raise capital in the form of debt rather then equity. The new corporation is encouraged to load its initial capital structure with debt; the growing corporation is encouraged to raise new capital through debt; and the mature corporation is encouraged to replace its existing stock with debt either through a stock buyback or LBO.

Dividend Relief. Many have concluded that the way to correct the tax bias for debt capitalization is to limit corporate interest deductions. This approach, however, would simply increase the cost of capital for American acquirers by effectively raising their interest rates on an after tax basis. Moreover, since such restrictions would not affect borrowing costs of foreign corporations, the net effect would be a competitive disadvantage for U.S. corporations. Finally, the long history of attempts to define problems out of existence has proved that the definees are more adept than the definors. Just as soon as new regulations are written, efforts are underway to render them irrelevant.

A more logical approach to the biases in our tax system would focus on our overtaxation of corporate equity. We stand virtually alone in the industrial world in the extent to which we apply a double tax regime to corporate income. Thus, although each of our major trading partners imposes a separate tax on corporate income, most also provide substantial relief from that tax when dividends are distributed. We should not ignore this fact as we are every day forced to compete in an increasingly global economy. Germany, Italy, Australia, and New Zealand allow shareholders full credit for the corporate tax paid. France provides full relief through the combination of a partial deduction for dividends paid and a partial shareholder credit. Other countries, including the United Kingdom, Japan and Canada, provide significant partial relief from double taxation.

The Treasury proposals for Tax Reform in 1984 and 1985 would have reduced the tax burden on corporate equity by permitting corporations to deduct a portion of the dividends they distribute. The House of Representatives included a scaled-back version of these proposals in its 1985 Tax Reform bill. Although dividend relief was eventually dropped in the final Tax Reform legislation, we should not accept this as the last word on the merits of such proposals. I well recognize that at this juncture revenue considerations limit our ability to provide fundamental relief from double taxation of corporate income. But the fact remains that market forces have created their own solution to the double taxation of dividends. At the same time, tax as well as economic policy would be ill served if we were to address the current imbalance in the taxation of debt and equity without seriously considering proposals to mitigate in some significant way the double tax on corporate equity income.

Revenue Effects. Part of the concern with the tax incentive for leveraged acquisitions and stock repurchases relates to possible revenue losses from a broad substitution of debt for existing corporate equity. A corporation replacing nondeductible dividend distributions with deductible interest payments will of course achieve a savings in its income tax liability for many years. If such substitution were to occur on a broad scale, there would be a correspondingly large reduction in corporate income tax receipts.

It is important to recognize, however, that LBOs and leveraged share buybacks typically generate three effects offsetting the increase in corporate interest deductions. An LBO or stock repurchase represents a taxable sale of stock for shareholders, generally at a substantial premium, and the gains recognized effectively accelerate income that might have been deferred for a number of years, or even exempted altogether if the shareholder held the stock until death. In addition, an LBO or substantial share repurchase would typically require taxable asset sales by the corporation in order to retire indebtedness. It is also important to recognize that to the extent that LBOs or other leveraged recapitalizations lead to a more efficient allocation of resources, the overall level of national income will be increased, and this will generate additional tax revenues which will further offset the adverse revenue impact of the substitution of debt for equity by those transactions.

B. Financial Institution Regulation. The substantial fees that banks can command for arranging LBO financing, as well as the higher interest rates they can charge, may lead some banks to commit an inappropriately large portion of their portfolios to LBO debt. Moreover, there is concern that some of the banks participating in a syndicate do not examine the loans carefully and simply rely on the judgment of the lead bank. Chairman Greenspan's recent warning to banks that they should examine closely the prospects of LBO loans under a wide range of economic and financial circumstances is thus particularly apt.

C. Securities Law. An additional and important source of regulation is the securities laws. In a recent testimony before the House Telecommunications and Finance Subcommittee, SEC Chairman David Ruder outlined several regulatory changes being considered by the SEC. Among the most important is a discussion of the rules governing so-called fairness opinions. In this regard, a standard practice that should receive scrutiny is linking the size of the fee paid for the opinion to successful completion of the transaction. Such linkage raises serious questions as to the objectivity of the opinion.

VII. CONCLUSION

My testimony has been necessarily general, but I admit that I have a growing feeling that we are headed in the wrong direction when so much of our young talent and the nation's financial resources are aimed at financial engineering while the rest of the world is laying the foundation for the future.

We have always done best in this country when our savings have been used to create new jobs, new products, and new services at lower prices. LBOs produce fundamental changes in the financial structures of this country's corporations. They, in turn, raise basic questions about our economic future, whether we will continue to grow and create jobs and whether we will remain competitive.

Mr. Chairman, I know you share my concerns. By holding this series of hearings, you have issued a call to the brightest minds in both government and the private sector to examine and evaluate this trend.

I commend your efforts and I would like to join you today in this endeavor, by issuing a challenge to those who make the financing decisions and the financial institutions which advise them -- to the gladiators in the arena.

I call on them to put the same intensity and effort into evaluating where we are going as they have into taking us there. Let them bring forward the evidence and make proposals about what should be done.

I think it is entirely appropriate that we together -- the Congress and the Administration -- call upon the private sector to take on this responsibility. It is in the finest tradition of our democratic system that government look first to the people themselves for solutions and only act when it is clear the people can not solve the problem themselves.

Statement of Senator Dave Durenberger

Senate Finance Committee Hearings Concerning
Leveraged Buyouts and Corporate Debt
January 24, 1989

Mr. Chairman, I want to take this opportunity to commend you for scheduling this series of hearings so early in the new Congress. I also want to take a moment to welcome Steve back to the Committee, and to express my disappointment that after 10 years together, Malcolm has decided to leave my side and move to the Armed Services Committee.

The Paradox of Investment Capital

Mr. Chairman, in recent months, I've noticed what appears to be a paradox in corporate America.

Not a week seems to go by without one of the major business publications offering a public warning of the dangers of leveraged buyouts and the growth of corporate debt.

Some of our most respected financial experts, including Federal Reserve Board Chairman Alan Greenspan, Henry Kaufman, and former Treasury Secretary Mike Blumenthal, all have expressed serious reservations about the growing trend in corporate America to replace the equity on their balance sheets with debt.

In fact, over the last five years, corporate debt has increased by an estimated $840 billion while corporate equity has contracted by nearly $300 billion.

But the paradox lies in the fact that while insurance companies, pension funds, and financial institutions seem more than willing to buy junk bonds and other financial instruments to finance LBOs and takeovers, more and more industries are turning to Washington for tax-subsidized financing for the research and development of the new technologies that must spearhead growth and create new jobs well into the 21st Century.

The Federal government has already committed $500 million to finance a consortium of semi-conductor manufacturers; consortiums and federal financing have been recommended for such technologies as High Definition Television (HDTV), High Temperature Superconductors and even X-Ray lithography.

My concern is simply this: Why is it that commercial banks and S&Ls with access to billions of dollars of funds guaranteed up to $100,000 per account by the government are willing to buy 18 percent junk bonds to finance the $25 billion buyout of a company that makes Oreos and Winstons? But the same custodians of our nation's savings appear unwilling to "risk" investing in HDTV or high temperature superconductors without government guarantees?

Why does the government have to foot a large part of the bill for the next generation of semi-conductors when tax-subsidized pension plans and other investors are willing to invest $13 billion to finance more Velveeta cheese and Parkay margarine?

Mr. Chairman, I believe this is not simply a paradox, but a deeply troubling reality of where the consumption ethic would take U.S. investment policy over 40 years. There are huge short-term financial rewards that bankers, investment advisors, attorneys and shareholders reap from shuffling the ownership of well-established brand name companies. By contrast, the short-term rewards that result from investing in long-term leading-edge technologies, do not provide comparable financial incentives.

In fact, it is not dissimilar from the short-sighted way we approach health care in this country. We "reward" illness in America with fully paid and insured Doctor-hospital bills. But we provide little incentive for the responsible and thoughtful individuals who work hard to stay healthy.

The Extraordinary Growth in Corporate Debt

Mr. Chairman, I have heard many theoretical reasons advanced as to how hostile takeovers and leveraged buyouts increase the efficiencies of the modern corporation and our economy as a whole. It is often alleged that the stock market is undervaluing these large corporations. When a new owner comes in and breaks the company into its component parts, the company is worth far more, and is run more efficiently.

There is some credibility to this contention. Throughout the late 1960's and the 1970's many companies diversified through acquisition into businesses they knew little or nothing about. The corporate raiders and LBO specialists of the 1980's can thus be seen be undoing uneconomic conglomerations of the past in order to lay the foundation for a more competitive corporate America in the 1990's.

It is also argued that when management takes the company private through a leveraged buyout, management suddenly develops a greater incentive to operate efficiently because they now operate as owners rather than as corporate employees.

Although these arguments may have some validity, I have yet to see any convincing evidence that these theoretical "efficiency" benefits outweigh the real potential dangers that hostile takeovers and leveraged buyouts pose to the future long-term health of our economy, especially our competitiveness in the global marketplace.

In nearly every hostile takeover, and in all leveraged buyouts, the one certain result is that the surviving entity that emerges will be saddled with an extraordinary new debt burden. Even if a company succeeds in fending off a corporate raider, the surviving company is often burdened with an extremely large debt.

For example, when the Goodyear Tire and Rubber Company was forced to restructure to preserve its independence, it incurred a huge debt service burden that could seriously erode its future competitiveness. Currently, the company must pay one million dollars each and every day of the year to service that debt. That is one million dollars a day that is paid to 17 banks--12 of whom are foreign banks--instead of being invested in new plant and equipment.

By one estimate, the interest payments on corporate debt can account for 20 percent of these firms' cash flow. In a healthy and robust economy such as we have enjoyed in the last six years, companies may not have a problem servicing that debt. But can these companies afford to continue to service this growing debt if economic growth slows? Unlike dividend payments that can be suspended in tough economic times, interest on corporate debt must be paid or else the company faces the prospects of bankruptcy.

This extraordinary debt buildup has important implications for financing the federal budget. If corporate debt continues to grow at the levels of the past several years, it seems inevitable that we will see a serious erosion of the corporate tax base, with untold consequences for balancing the federal budget.

Long-Term Competitiveness

Mr. Chairman, it is not just the burden of meeting interest payments and maintaining the corporate tax base that should concern us. We cannot ignore the fact that the billions of dollars spent on meeting interest payments, are billions that can not be channeled into new corporate plant and equipment. These billions are not available for corporate long-term research and development which will lead to the products that will produce profits for the future.

Instead of investing for the long-term; instead of investing in modernized factories; instead of investing in new products and manufacturing processes, America's corporations and

investors are engaging in a feeding frenzy of buying and selling corporations. Does it make any sense that in 1986 American corporations spent more on mergers and acquisitions ($177 billion) than they spent on new plant and equipment ($141 billion)?

And it should not go unnoticed that much of the financing for the takeover and LBO wave of the 1980's comes from foreign sources. If you add in the huge interest payments owed to foreigners by the federal government with the debt that corporate America will be paying foreign bankers, I believe we will see a hemorrhaging of American capital abroad for years to come, and a diminished capacity to meet the challenges of international competition.

Solutions

Unfortunately, Mr. Chairman, there are no "magic bullet" solutions that will easily resolve these issues. It is clear that we cannot simply eliminate the tax deduction for corporate debt. This would give foreigners a significant advantage in takeover battles while penalizing companies that need capital to expand.

While I would favor a revenue-neutral solution that better equalizes the tax treatment of debt and equity, I recognize that such a proposal is fraught with a great deal of complexity, including how to treat currently outstanding equity, and how to address the issue of equity held by tax-exempt entities. I look forward to hearing Secretary Brady's views on these tax issues.

But there are other issues that I think should be addressed during these hearings. I would like to mention just a few of these issues: (1) Should the fiduciary responsibility standards for tax-exempt pension funds and university endowments be reevaluated to discourage them from financing hostile takeovers and LBOs? (2) How can the federal government foster a greater emphasis on long-term investment? (3) Should financial institutions be allowed to used funds insured by the federal government to finance corporate takeovers and leveraged buyouts?

Mr. Chairman, we have seen the toll that reckless debt financing and rosy scenerios for the future have taken on the S&L industry and on the economies of Latin America. Too often, the financial "experts" have told us to let the market decide what's a good investment and what's not, whether in Bogota Columbia or in North Dallas. Unfortunately, the American taxpayer may ultimately be left holding the bag for many of these bad investments.

We owe it to the American people not to repeat the mistakes of the past by allowing the leveraging of corporate America to go forward without a serious examination of the long-term implications of this phenomenon.

STATEMENT OF SENATOR HEINZ

Mr. Chairman, I join you in welcoming Secretary Brady as this committee begins its hearings on the recent trends in corporate financial restructuring which has resulted in increased corporate debt. It is fitting that the Secretary of the Treasury lead off these hearings not only because of his experience in the management of our own government's multi-trillion debt but his experience on Wall Street prior to becoming Secretary of Treasury provides him with a unique perspective on the nature and implications of the leveraging of America.

Over the past few years this country has witnessed a proliferation of debt in all sectors of our economy -- by the government, households and corporations.

1980 - Corp. debt 30.3% of GNP

1987 - Corp. debt 36.8% of GNP

This is a 21.5% increase

1980 - Household debt was 52.3% of GNP

1987 - Household debt was 62.7% of GNP

This is a 19.9% increase

1980 - Federal debt was 27.2% of GNP

1987 - Federal debt was 43.3% of GNP

This is a 59.2% increase.

In each case it is a matter of great concern. During the next few months Congress and the President will once again grapple with how to control our budget deficits and reduce the skyrocketing national debt. And, as America struggles to become more competitive in the world, we must look for ways to transform a nation of consumers into better savers.

Today we will focus our attention on corporate debt and Wall Street's seeming love affair with the LBO, and the shift from equity financing to debt financing.

Debt may be a four letter word -- but I do not believe it is bad. Debt has long been an important and useful source of financing for corporate America. But lately debt has been chasing capital off the face of our corporations' balance sheets and out of our nation's stock markets. It is the displacement of equity in

favor of debt and the erosion of the capital foundation of industries -- the so-called leveraging of corporate America -- that creates cause for concern.

Equity capital is American industries' shock absorbers. It enables a cororation to travel down the bumpy and unpredictable economic road to higher profits and productivity without being jolted by every pothole and curve it encounters along the way. In turn, corporations reward those who provide equity. It is these investors who are willing to go along for the ride and wait for the profits at the journey's end.

If equity absorbs shock and debt can cause shock, why are corporations shedding capital and loading up on debt? Part of the reason can be found in our tax code. When a corporation pays interest on its debt it can take a deduction and reduce the level of corporate tax. But when there are profits to distribute to those who provide equity, the corporation must pay a tax first. For this reason alone, it is cheaper for a corporation to raise debt than equity.

Mr. Chairman, in my view it is time to take the equity owner from the back seat and put him in the driver's seat. Unless we

encourage investors to go along for the ride, at the first sign of an economic downturn we may well find our corporations taking a detour towards a destination called bankruptcy. While our tax system currently makes it cheaper to use debt than equity, we may discover that we have paid a high price for this policy when we get down the road.

While there have been various proposals to limit the deductibility of interest, I believe that that is clearly the wrong direction. The most sensible response would be legislation that improves the tax treatment of equity vis-a-vis debt. Many of our trading partners have eliminated part or all of the double tax on dividends. The original 1986 tax reform bill contained proposals for improving the tax status of equity, but they were dropped as the legislation moved through Congress. Now is the time to resurrect the dividend deduction proposal.

Statement of Senator Rockefeller
Before the Senate Finance Committee
Hearing on Corporate Takeovers
January, 1989

I am very pleased that the Committee is holding these hearings today on leveraged buy-outs and corporate debt. This is an important subject and I want to commend Chairman Bentsen for bringing the issue to the top of the Committee's agenda.

A number of very troubling questions have been raised about the current wave of debt-driven corporate takeovers. We have heard charges of unwarranted fees, companies dismantling their research and development operations, and of a general and excessive accumulation of debt that could bring trouble in the event of a recession. Moreover, we hear it said that much of this is being driven by unwarranted distinctions in the tax code.

These are serious allegations and for that reason I am glad that we are hearing testimony on the matter in these hearings. There are complex economic, financial, and legal issues involved. Various considerations must be carefully balanced -- from incentives for risk-taking to security for the investor, from maintaining a stabile climate for management to encouraging innovation.

But the delicacy of the balance required does not mean that there is no room for improvement. After nearly a decade-iong rising wave of mergers, takeovers, and leveraged buyouts it is past time to reevaluate where all this is leading. Faced as we are with fierce international economic rivalry and burdened with the deficit legacy of the '80s, we need to ensure that the resources of our entire economy are mobilized not for illusory paper profits, but for genuine growth.

I thank the Chairman and I thank our witnesses for assisting us in addressing these important issues.

STATEMENT OF SENATOR SYMMS

I am very pleased that Secretary Brady has personally appeared here today, because I believe the questions raised by this inquiry into leveraged buyouts and the public policy and tax policy implications of this kind of business activity are very important -- and potentially very serious for the American economy.

I want to state at the outset that my position is that we should not make any changes in current law as it affects leveraged buyouts other than, perhaps to repeal the anti-capitalistic double-taxation of dividends.

The adoption of the Tax Reform Act of 1986 was a major step in the way people in our economy do business. It was an important and progressive step in the direction of horizontal equity and elimination of special categories and special restrictions and incentives in the tax code. It has been seen by most economists and tax practitioners as a significant improvement in the tax code.

Now it is time to let the tax code rest for several years. We should not introduce another major convulsion. Any attempt to change the tax impact on a corporation's capitalization would have major economic consequences. I have said several times in

the past few weeks that any attempt to reduce or restrict or modify the tax-deductibility of interest paid by businesses or to change the dividends paid exclusion would cause an upheaval in the stock and bond markets.

I want to make my position clear and unequivocal at this hearing today because I fear that some of my colleagues may not have such a firm point of view. I think the general public and the American business community needs to know that many of us in Congress are not prepared to rush forward with some kind of "cure" for some kind of "leveraged buy out problem" when there is a lot of evidence that there is no problem in this area at all.

I would like to ask unanimous consent, Mr. Chairman, if we might print in the hearing record at the conclusion of the material presented by Secretary Brady a copy of a research paper that has just been released by the University of Chicago, by Professor Abbie Smith of the Graduate School of Business at the University of Chicago.

I feel strongly that what this inquiry into the effects of debt on the corporate capital structure and the impact of a high level of leveraged buy-out activity in the U.S. economy most needs is empirical research and scientific evidence.

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Corporate Ownership Structure and Performance:

The Case of Management Buyouts

Abbie Smith

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University of Chicago

I am grateful for the helpful comments of John Elliott, Edward George, Robert Haldeman, Laurentius Marais, Mark Penno, Katherine Schipper, Roman Weil and the participants of the Minnesota Accounting Conference, Yale Law and Economics Workshop, and accounting workshops at Duke University, Northwestern University, U.S.C., University of Washington, and Wharton. In addition, I would like to thank Edmund Jenkins of Arthur Andersen & Co. for his assistance in getting financial statements of private companies, and Joel Horne, David Kreidler, Laureen Maines, Douglas Skites, and Phyllis Yew for their valuable research assistance. This research was supported by the Institute of Professional Accounting at the University of Chicago.

1. Introduction.

This paper investigates whether changes in operating performance are associated with management buyouts (MBO's) of publicly held corporations. Measures of firm performance after 58 MBO's completed during 1977-86 are compared to their pre-MBO levels. In addition, the cross-sectional relation is estimated between changes in relative performance and changes in ownership structure as reflected in financial leverage and stock ownership by officers, outside directors, and other major stockholders.

The primary motivation is an interest in whether the separation of ownership and control characterizing the public corporation is associated with inefficiencies of asset management reduced upon MBO's. An MBO typically replaces the diffuse public ownership with concentrated ownership by some combination of managers, directors, institutional and private investors, and by substantial debt. The increased concentration of stock ownership by managers, directors, and other investors as well as the increased financial leverage are expected to improve the efficiency with which assets are managed.

A secondary motivation for this investigation is an interest in the sources of stockholder gains associated with MBO's per se. DeAngelo, DeAngelo, and Rice [1984] document abnormal stockholder returns averaging 22.3 per cent for a sample of 81 announcements of MBO proposals in the period 1973-1980. More recently, Marais, Schipper, and Smith [1989] document abnormal stockholder gains averaging 13 per cent for 80 MBO announcements concentrated largely in the period 1981-1985. Results in Marais, Schipper, and Smith fail to support bondholder losses as a major

source of stockholder gains. Kaplan [1987], Lehn and Poulsen [1988], and Schipper and Smith [1988] investigate corporate income tax savings associated with MBO's as a source of stockholder gains. Their results are consistent with substantial tax savings which could fully account for the gains to stockholders of some sample firms, but do not rule out additional sources of gains. This paper builds on this literature by providing evidence on the "real gains" associated with MBO's resulting from an increase in operating returns.

The results for both the total sample and for subsamples with and without major divestitures following the buyout are consistent with a substantial increase in profitability following the MBO. The sample median of the ratio of operating cash flows (after tax) to operating assets (i.e., return on operating assets) increases from values ranging from 11.4 percent to 16.1 percent in the five years before the MBO to 20.3 percent the year after the MBO was completed. A significant increase is also documented in the operating cash flows per employee. This apparent increase in profitability does not appear to be due to industry-wide trends. The median deviation of the return on operating assets from the industry average increases from values ranging from 0.8 percent to 7.6 percent in the five years preceding the MBO to 11.9 percent in the year after the MBO was completed, and the median deviation of the operating cash flows per employee more than doubles from the year preceding to the year following the MBO. Although corporate tax savings contribute to the increase in after-tax cash flows, the increases in both the return on operating assets and return per employee are also highly significant on a pre-tax basis.

Results suggest that the resources tied up in working capital are reduced after the MBO, as reflected in a significant increase in the ratio of sales to working capital. There is some evidence of a reduction in both the inventory holding period and the accounts receivable collection period, although no evidence of an extension of the payable period to suppliers.

The sample-wide results provide little support that the increased operating cash flows in the post-MBO period are due to pervasive cutbacks in "discretionary expenditures" such as maintenance and repairs, advertising, or research and development which might lead to a longer run decline in cash flows. The median proportion of sales represented by both the maintenance and repairs expense and the advertising expense are largely unchanged upon the MBO. Although the relative ratio of R&D expenditures to sales does decline significantly upon the MBO for a subsample of 5 firms with data available and post-MBO divestitures, the lack of data availability for the majority of sample firms is consistent with the immateriality of R&D expenditures in the sample. Finally, there is a substantial reduction in capital expenditures as a percentage of sales upon the MBO. However, this is not likely to account for the increase in the

return on operating assets because capital expenditures are treated as a non-operating use of cash.

The cross-sectional regression results support a relation between changes in performance and changes in corporate ownership structure for the subsample of firms without major asset sales following the MBO. The estimated coefficients on the change in the ratio of debt/tangible assets, and the changes in the percent of outstanding common stock held by corporate officers, outside board members, and other major stockholders are positive as expected, and tend to be highly significant in the regression model of the change in relative return on operating assets (before and after tax). In contrast, the regression results for the asset sale subsample do not suggest a significant relation between the change in corporate ownership structure and the change in the return on operating assets from the pre- to the post-MBO period. This is not surprising, given the potential confounding effects of a change in asset base on the change in profitability measures.

The association between the change in relative performance and the change in ownership structure of the nondivestors is consistent with the hypothesized incentive effects of the MBO. However, an alternative explanation is that insiders exploit (via the MBO) private information about an increase in future cash flows. Two empirical observations cast doubt on asymmetric information of the managers as the sole explanation for the increase in (pret-tax) cash flows.[1] First, cash flows do not tend to increase after MBO proposals which failed due to board/stockholder rejection, withdrawal, or a higher outside bid. Second, the median increase in cash flows after MBO's preceded by an apparent takeover threat and/or MBO's initiated by outsiders is as high as that for nondefensive and/or management initiated MBO's.

The remainder of this paper is organized as follows. Section 2 reviews previous research on the association between ownership structure of corporations and corporate performance, and further develops the motivation for this paper in light of the previous research. Section 3 describes the research hypothesis examined in this paper. Section 4 describes the sample and the data sources, and Section 5 describes the methodology. Section 6 presents empirical results, and Section 7 presents a summary and conclusions.

2. Background.

The potential conflict of interest between a firm's owners and managers has long been recognized in the economics literature.[2] A major theme of Berle and Means [1932] was the deterioration in managerial efficiency associated with the separation of ownership and control characterizing the modern corporation. Since Berle and Means [1932], economic theorists have addressed the effects of such conflicts of interests on firm performance, and the disciplinary forces which may reduce managers' private returns (e.g., shirking and consumption of perquisites)--i.e., the market for corporate control (see, for example, Manne [1965]),

the managerial labor market (see, for example, Fama [1980]), incentive contracts (see, for example, Shavell [1979]) and Holmstrom [1979], [1982], and debt (see, for example, Jensen [1986]). The resulting economic theories suggest that the inherent conflict between corporate stockholders and managers has potentially important implications for corporate production/investment, financing, and accounting decisions.

In spite of the central role of the conflict of interest between corporate stockholders and managers in recent theoretical developments in economics, finance, and accounting, very few (published) empirical investigations have focused on the relation between firm performance and corporate ownership structure. Two recent exceptions are Demsetz and Lehn [1985] and Morck, Shleifer, and Vishny [1988].[3] Demsetz and Lehn [1985] estimate the linear cross-sectional relation between a firm's average return on equity over the period 1976-80 and the concentration of stock ownership for a sample of 406 large manufacturing or mining corporations and 105 regulated utilities and financial institutions. A separate regression model is estimated for each of three measures of concentration of common stock ownership: 1) the percentage owned by the five largest stockholders, 2) the percentage owned by the twenty largest stockholders, and 3) the Herfindahl Index.[4] None of these measures provides statistically significant explanatory power for the cross sectional variability in corporate profitability.

Morck, Shleifer, and Vishny [1988] estimate the cross-sectional relation between stock ownership by the board of directors and corporate performance in 1980 for a sample of 249 firms in the Fortune 500. A separate regression model is estimated for each of two measures of corporate performance as the dependent variable: 1) Tobin's Q and 2) the ratio of net cash flows to the replacement cost of capital stock. Unlike Demsetz and Lehn [1985], Morck, Shleifer, and Vishny [1988] attempt to control for variation in performance across industries by the inclusion of dummy variables for two-digit SIC codes represented in their sample.[5] In addition, they relax the assumption of a linear relation between performance and stock ownership, proposing that there is a positive association between board stockholdings and corporate performance only up to a point beyond which performance declines due to the entrenchment of managers. They test for different average performance (i.e., regression model intercept) for each of four categories of board holdings: 1) < 0.2% 2) between 0.2% and 5% 3) between 5% and 20% 4) greater than 20%. They conclude that the results are largely consistent with their proposition.

Demsetz and Lehn [1985], Morck, Shleifer, and Vishny [1988], and the earlier related research investigate the cross-sectional association between corporate performance and ownership structure.[6] This study adopts

an alternative approach of examining the association between the change in performance and the change in ownership structure in the case of MBO's.[7] In many cases, MBO's are not associated with major changes in the composition of the firms' assets in place or the identity of managers. It is unlikely, therefore, that changes in the abilities or utility function of managers or a reconfiguration of assets confound any effect on corporate performance of the change in ownership structure. However, some MBO's are associated with asset sales whose proceeds are used to service the interest or reduce the principal of the debt borrowed to finance the buyout. In these cases, the MBO may be associated with a major reconfiguration of assets. Such an asset sale may, in fact, represent one means of improving corporate performance. The change in corporate performance is examined separately for subsamples of firms with and without major asset sales after the MBO.

In an attempt to control for the effects of industry-wide factors on corporate performance (e.g., factor prices, regulatory climate, consumer demand, state of technology etc.), the change in sample firm performance upon the MBO is evaluated net of the average contemporaneous performance of competitors which did not go private. The use of industry-adjusted performance evaluation is designed to increase confidence that any effects of the change in ownership structure on corporate performance have been isolated.

Changes in the performance of firms that go private are of interest in their own right. Concern is growing among government policymakers, tax experts, and financial economists regarding the extent to which the U.S. tax system subsidizes the current wave of MBO's which are alleged to enhance neither corporate growth nor efficiency. For example, Lowenstein [1985] argues:

> "The tax inducements for the promoters and other participants in a management buyout are so large as to dispense with the need to create the other real gains on which the neoclassicists seem fixed" (p. 763).

With regard to the stockholder gains associated with MBO's, Lowenstein concludes:

> "Management buyouts have produced substantial gains for stockholders in recent years. The large financial gains, however, should not be confused with real gains. To a large extent, they have been tax-generated" (p. 784).

Furthermore, many argue that the severe drain on cash after an MBO by the increased debt burden actually reduces corporate growth and efficiency by restricting expenditures for research and development, capital investments, and even repairs. In spite of the apparent concern over the effects of the recent surge in MBO's on corporate performance, little empirical evidence has been documented.[8]

3. The research hypothesis.

The major shift in corporate ownership structure and monitoring environment upon an MBO is expected to improve the operating performance for several reasons.[9] First, an increase in the equity holdings of corporate officers directly increases their costs of private returns (e.g., shirking, consumption of perquisites). Second, the increased concentration of stock ownership by outside board members and other major investors encourages closer monitoring of managers' actions. Third, managers' discretion over corporate expenditures (including perquisites and negative net present value projects) is reduced by the commitment of future cash flows to service the debt borrowed to finance the MBO.[10] These factors suggest that, ceteris paribus, stronger improvement in relative performance is expected upon MBO's with a 1) larger increase in equity holdings by corporate officers, 2) larger increase in equity holdings by outside board members and other major investors, and 3) larger increase in financial leverage.[11]

Alternatively, MBO's may be expected not to improve corporations' operating performance for several reasons. The disciplinary forces in effect prior to the MBO (e.g., managerial labor market, market for corporate control, incentive contracts) may effectively preclude major inefficiencies of the public corporation. Or, the shift in ownership structure and monitoring environment upon the MBO does not effectively reduce the private returns earned by the managers of the public companies. In fact, MBO's may be expected even to decrease corporations' performance because the cash drain from the debt borrowed to buy out the public interest in stock may lead to reductions in expenditures for research and development, repairs, advertising, capital improvements, training programs, and new profit opportunities below competitive levels. Furthermore, the discipline imposed on managers of the public company by the market for corporate control is largely eliminated.[12]

Given the potential opposing effects of the MBO on the operating performance, the net effect on corporate performance is an open empirical issue. This is the central issue addressed in the empirical work below.

4. Sample selection and data sources.

The initial list of successful MBO's came from three sources: 1) Marais, Schipper and Smith [1989] (165 successful MBO's), 2) the Compustat Industrial Research file which includes a code for private companies which were previously public (11 additional MBO's), and 3) annual issues of W.T. Grimm's Mergerstate Review (54 additional MBO's).[13] Fifteen of the 230 MBO's were excluded from further consideration because financial data were not available on Compustat prior to the MBO. An attempt was made to obtain data on corporate performance following the MBO of the 215 remaining sample candidates. Such data are available from prospectuses of 17 sample

candidates with a subsequent public offering of common stock, and from other SEC filings (e.g., 10K's 10Q's, etc.) of 32 sample candidates with public debt or preferred stock outstanding after the MBO. In addition, financial statements were released confidentially by nine sample candidates.[14]

Table 1A summarizes the sample frequency, by year, of these 58 sample MBO's during the period 1977-86, and the yearly frequency of all 215 sample candidates. Almost half the sample MBO's were completed in 1984-85 (34 percent of sample candidate MBO's occurred in 1984-85). Table 1B presents the post-MBO years for which performance data are available for sample firms. Table 1B also presents subsequent events including a public offering of common stock (17 firms), acquired (12 firms), liquidated (3 firms), bankrupt (1 firm). Table 1C summarizes the number of years of performance data included in the post-MBO period for the total sample and for the subsamples with and without asset sales (as defined below). The number of years ranges in the sample from one to six, with 36 percent of the sample having only one year following the year in which the MBO was completed. Table 1D summarizes the sources of post-MBO data for the total sample and for the subsamples with and without asset sales (as defined below). Table 2 presents the industry membership separately for the sample of 58 MBO's and for the initial list of 215 sample candidates.[15] The food and apparel industries are the most heavily represented in both the list of sample candidates and the final sample, with 8 and 5 firms in the sample, respectively.

Data for estimating the percent of outstanding common stock owned by officers, outside directors, and other major holders were collected from the most recent proxy statement prior to the MBO. Post-MBO stock ownership data were collected primarily from subsequent S-1 (registration statement) or 10-K filings. In two cases where no subsequent S-1 or 10-K filings were available, post-MBO stock ownership data were collected from the proxy statement issued for the MBO.

Summary statistics describing firm size, stock ownership, and financial leverage for the 58-firm sample before the MBO, after the MBO, and the change associated with the MBO appear in Table 3. In addition, Table 3 presents summary statistics describing the sale of assets after the MBO.

Three measures of firm size are included: annual sales, the book value of tangible assets (excluding any writeups to inventories, accounts receivable, or property, plant and equipment after the MBO), and the number of employees. The pre-MBO figures represent the average of each measure over the five years preceding the year in which the MBO was completed. The post-MBO figures represent the average of each measure over all available years during which the common stock was privately held after the MBO. The

change figures represent the difference between the post- and pre-MBO averages. As reported, the median firm before the MBO has sales of $369.70 million, tangible assets of $183.92 million, and 4,890 employees. After the MBO, the median firm has sales of $468.23 million, tangible assets (excluding writeups) of $221.20 million, and 4,050 employees. The median increase in sales is $42.95 million, in tangible assets is $20.46 million, and in employees is 100 people. Hence, although there are significant asset sales following some sample MBO's, these summary statistics do not reveal a tendency for a decline in sample firm size after the MBO.

The stock ownership data confirm that sample firms do tend to experience a large increase in the concentration of equity ownership upon the MBO. Prior to the MBO, the median percent of outstanding common stock owned by officers, outside directors, and all other major stockholders (i.e., typically a 5% interest or more) is 35.45%, primarily due to the ownership by officers (median of 11.45%) and other major stockholders (median of 9.29%). In contrast, after the MBO, the median percent of stock owned by officers, outside directors, and other major stockholders is 95.26%. This substantial increase in concentration is mostly due to an increase in the stockholdings of other major investors (median increase of 33.48%) as well as the increase in stockholding by officers (median increase of 6.70%). It is interesting to note that before the MBO, 25 percent of the sample firms have more than half of the outstanding common stock held by officers, outside directors, and other major stockholders. These firms are less likely to experience a drastic increase in the concentration of equity upon the MBO.

The summary statistics for the ratio of debt to tangible assets reported in Table 3 confirm that sample firms also tend to experience a major increase in financial leverage upon the MBO. The median ratio increases from .59 before the MBO to 1.01 after the MBO. In fact, all three quartiles of the ratio approximately double from the pre- to post-MBO period. Furthermore, 75 percent of the sample firms have a debt/ tangible asset ratio of at least .83 after the MBO.

Finally, two measures of the fraction of the pre-MBO net property, plant, and equipment (PPE) sold after the MBO are presented in Table 3. Measure 1 is the portion of the book value of net PPE in the year preceding the MBO (plus the writeup of net PPE) which is represented by the cumulative proceeds from the sale of PPE after the MBO. Measure 2 is (1.0 - estimated portion of the net PPE as of the year preceding the MBO which is still on hand in the final post-MBO sample year). To estimate the portion of pre-MBO PPE remaining in the most recent post-MBO year, the book value of total net PPE in the most recent sample year is adjusted downward for the estimated remaining effects of writeups from the application of purchase accounting, adjusted downward for all capital expenditures since

the MBO, and adjusted upward for all depreciation expenses since the MBO. The adjusted net PPE figure is divided by the book value of net PPE at the end of the year preceding the MBO to get the portion of assets still on hand, which, in turn, is subtracted from 1.0 to get the second measure of the fraction of assets sold. The 30 sample firms with measure 1 and/or measure 2 exceeding 20% are assigned to the asset sale subsample. The remaining 28 sample firms are assigned to the subsample "without asset sales".

For the total sample, the median fraction of net PPE sold after the MBO is .04 and .00 using measures 1 and 2, respectively. For the subsample without asset sales, the median fraction of fixed assets sold after the MBO is .01 (.00) using measure 1 (2), and 75 percent of the subsample have asset sales less than .03 (.00). In contrast, the median asset sales for the asset sale subsample is .26 (.28) using measure 1 (2), with 25 percent of the subsample having asset sales exceeding .39 (.56).

The control sample of competitors for estimating the industry-adjusted performance measures of each sample MBO firm consists of all firms with the same (typically 4-digit) SIC code as the sample firm, a fiscal year end within three months of that of the sample firm, and with performance data available on the Annual Industrial Compustat Tape for at least 3 years beginning 15 years prior to the completion of the sample MBO.

5. Methodology.

5.1 Performance Measures.

The primary category of performance measures is designed to capture the operating or business efficiency with which assets are managed as reflected in a firm's profitability. The first measure is the annual return on operating assets, defined as the ratio of annual cash flows from operations to the average book value of operating assets (i.e., current assets plus net PPE) at the beginning and end of the year.[16] This measure does not exclude the interest expense on debt or any dividends paid to stockholders from the measure of annual cash flows in the numerator. Furthermore, the denominator is not affected by the use of debt versus owners' equity (i.e., preferred stock, common stock, and retained earnings) as a supply of capital. Because there is no direct effect of financial leverage on the return on operating assets (unlike the impact of financial leverage on return on equity measures), it is a traditional measure of operating efficiency.[17] The focus on operating cash flows in the numerator as opposed to operating (accounting) profits is intended to mitigate the impact of any change in financial accounting methods as well as the impact of purchase accounting on the return measure.[18]

Several issues regarding this measure of operating efficiency are important to consider. First, it is useful to investigate this measure both before and after taxes. Federal corporate income tax savings may

result from the MBO because of the write-up of the tax basis of depreciable assets to reflect the MBO price, the acceleration of depreciation from the adoption of ACRS enabled by putting used assets in place after December 31, 1980, and the increase in interest deductions associated with the debt borrowed to finance the buyout.[19] Any favorable effect such tax savings have on the performance measure above should not be ignored because efficient tax planning is one means of improving management efficiency.[20] However, it is also interesting to evaluate changes in the pre-tax returns following the MBO which are not due to a tax subsidy.

Second, special attention is paid to cases with asset write-ups on the financial statements to avoid a "cosmetic" reduction in the return measure which does not reflect a decline in real (i.e., economic) returns.[21] The operating cash flows in the numerator are not affected by writeups in accounts receivable, inventory, or property, plant, and equipment to reflect the purchase price paid in the MBO. However, it is necessary to adjust the reported book values of these assets after the MBO for any writeups to make the operating assets in the denominator comparable in the pre- and post-MBO periods.[22]

Third, inflation tends to increase the return on operating assets "artificially" due to the understatement of operating assets in the denominator (relative to current cost figures). However, the effect of inflation on the return measure before versus after the MBO should largely be controlled through the relative evaluation procedures.

Fourth, a short run increase in the profitability measure following the MBO may be the result of cutbacks in expenditures for research and development, advertising, maintenance and repairs, training programs, etc., but not represent an improvement in long run efficiency. Where data are available, an attempt is made to document the change in such "discretionary" expenditures to provide evidence on the potential impact on the performance measures above.

Fifth, the operating assets in the denominator of the return on operating assets do not include an important off-balance sheet asset-i.e. employees. Hence, an additional profitability measure is examined - the ratio of operating cash flows (before and after taxes) to the number of employees.

The overall operating efficiency as measured by the return on operating assets and the return per employee are disaggregated into two components. First, the generation of sales is measured by the operating asset turnover, defined as the ratio of annual sales to the average operating assets and by the ratio of employees to sales. Second, the control of costs is measured by the "profit margin", the ratio of the operating cash flows to sales.

Finally, working capital management is examined separately via the

average holding period for inventory and the average collection period for receivables.[23] The sum of these two periods is an estimate of the operating cycle, the time period it takes to generate cash from cash (i.e., to buy and/or manufacture inventory, sell finished goods and services, and collect cash from customers). In addition, the average number of days accounts payable to suppliers are outstanding is examined. A summary measure of the extent to which resources are tied up as working capital is the ratio of sales to the average of the beginning and end of year working capital (adjusted after the MBO for writeups to inventory and/or receivables). Freeing up capital from working capital maybe one source of gains in the operating cash flows.

5.2 Empirical Tests - Corporate Performance in the Pre- versus Post-MBO Period.

To provide evidence on changes in performance associated with MBO's, the relative value of each annual performance measure is estimated by subtracting the average value in the industry for each year beginning up to 15 years prior to the MBO. Hence, deviations from the industry average are used to test the hypothesis of a change in the relative performance upon an MBO.[24]

In the selection of the 15-year pre-MBO period, two factors were considered. First, working capital provided by operations, required to calculate operating cash flows, was not systematically disclosed until 1971. Given the most recent sample MBO occurred in 1986, the maximum number of years prior to the MBO that operating cash flows can be computed is 15. Second, a large number of observations is desirable for estimating the properties of each stationary time series, such as the correlation structure, mean, and variance. However the validity of the stationarity assumption is more questionable as the time period is extended. Structural shifts in the time series are more likely over long periods due to changes in the configuration of corporate assets, product mix, technology, consumer preferences, management strategy, financial accounting standards, etc..

Two candidate models of the time series process generating the industry deviations of each firm's performance measures are considered. First, the levels of a firm's industry deviations for a given performance measure are IID. Second, the industry deviations for a given performance measure are generated by a random walk. The first order autocorrelation coefficients of the levels and first differences of each performance measure are examined as evidence of whether the IID or random walk model is a superior description.[25]

Having selected levels or first differences for analysis, the post-MBO values are standardized. The post-MBO values for firm i of a given performance measure approximately IID in levels are standardized as follows:

$$y(i,t) = (x(i,t) - xave(i)) / [s(i) \times \sqrt{(1 + 1/n(i))}],$$

where

y(i,t) = standardized performance measure for firm i, post-MBO year t,

x(i,t) = value of performance measure of firm i in post-MBO year t,

xave(i) = average value of performance measure of firm i in pre-MBO period,

s(i) = standard deviation of performance measure of firm i in pre-MBO period,

n(i) = number of observations of the performance measure of firm i in the pre-MBO period used to estimate xave(i) and s(i).

If the (nonstandardized) performance measure is normally distributed, the standardized performance measure has a t distribution with mean of 0 and standard deviation of $\sqrt{(n(i)-1)/(n(i)-3)}$. Hence, even under the null hypothesis of no change in the distribution of the performance measure upon the MBO, the distribution of these standardized values varies across firms due to the different number of observations in the pre-MBO period. To adjust for these varying degrees of freedom, the standardized performance measures are divided by the theoretical standard deviation under the null hypothesis as follows:

$$z(i,t) = y(i,t) / \sqrt{(n(i)-1)/(n(i)-3)}.$$

Appealing to the Central Limit Theorem, the z(i,t) are summed across all sample firms and post-MBO years and divided by the square root of the number of observations (i.e. firm-years) to get an aggregate z statistic which is approximately distributed as a standard normal variable under the null hypothesis.[26]

To test for a change in relative performance upon the MBO under the assumption of a random walk model, the level of each performance measure (i.e. deviation from the industry average) for the firm in the year immediately preceding the MBO is subtracted from the level of the performance measure in the first post-MBO year.[27] Given that the mean value of the first differences in the pre-MBO period are not significantly different from zero, it is assumed that the random walk has no drift. Hence, the differences are standardized as follows:

$$y'(i,t) = x'(i,t) / [s'(i) \times \sqrt{(n(t)}],$$

where

y'(i,t) = standardized (differenced) performance measure for firm i in year t,

x'(i,t) = difference between performance measure for firm i between year t and some previous year,

s'(i) = standard deviation of the first differences in the

performance measure of firm i in the pre-MBO period,

n(t) = number of years between year t in post-MBO period and previous year over which difference is computed.

If the differenced performance measure is normally distributed, the standardized performance measure has a t distribution under the null hypothesis with a mean of 0 and a standard deviation of $\sqrt{(n'(i)-1)/(n'(i)-3)}$, where n'(i) is the number of first differences in the pre-MBO period used to estimate s'(i). To adjust for the varying degrees of freedom across sample firms, the standardized (differenced) performance measures are divided by the theoretical standard deviation under the null hypothesis to get z'(i,t). To test for a change in the distribution of each performance measure upon the MBO, the z'(i,t) for the first post-MBO year are summed across all firms and divided by the square root of the number of firms to get an aggregate z statistic. Appealing to the Central Limit Theorem, the aggregate z statistic is approximately distributed as a standard normal variable under the null hypothesis of no change in the distribution of the performance measure upon the MBO.[28]

6. Empirical Results.

6.1 Corporate Performance in the Pre- versus Post-MBO period.

Table 4 reports the sample median of the level and change in each absolute and relative performance measure for individual years before and one year after the MBO was completed (year 0).[29] In addition, the median for all subsequent available years (beginning with year +2) is presented. The number of observations is presented for the changes from the previous year included to the current year. The small number of observations after the first post-buyout year suggests that the corresponding median is not directly comparable to that for previous years.

Table 5 reports the aggregate z statistics for each relative performance measure for the total sample and for the subsamples of firms with and without asset sales in the post-MBO period. The z statistics computed on the basis of levels or first differences are presented, depending on which time series model appears superior on the basis of autocorrelation coefficients estimated during the pre-MBO period.

The results in Table 4 suggest an increase in profitability associated with sample MBO's. The median return on operating assets (after tax) increases from a pre-MBO high of 16.1 percent in year -1 to 20.3 percent in year +1. The sample median change from one year preceding to one year following the MBO is 4.3 percent.[30] This increase in the return on operating assets does not appear to be due to industry-wide profitability trends. The median relative return increases from a pre-MBO high of 7.6 percent in year -1 to 11.9 percent in year +1, and the median change over this period is 5.7 percent. The aggregate z statistic for the relative

return on operating assets for the total sample is 8.41, greater than that for all 1000 trials in which MBO and non-MBO firms in the same industry are selected at random.

The z statistics of 5.56 (.098 probability level) and 6.42 (<.001 probability level) for the subsamples with and without asset sales suggest increases in profitability for both subsamples.[31] The increase in operating returns can be attributed at least in part to an increase in the "profit margin" (after tax) (i.e. the ratio of after-tax operating cash flows to sales). The sample median profit margin increases from a pre-MBO high of 8.2 percent in year -1 to 10.0 percent in year +1. The median change in relative profit margin is 1.1 percent.[32] The associated z statistic for the total sample is 12.60 (significant at <.001 probability level), with values of 8.91 (.005 probability level) and 8.93 (.004 probability level) for the subsample with and without asset sales, respectively.

The increase in relative operating returns can also be attributed in part to an increase in relative operating asset turnover. Although the median values reported in Table 4 for the absolute operating asset turnover do not increase considerably after the MBO, the behavior of the median relative values in Table 4 and the aggregate z statistics in Table 5 are consistent with a significant increase for the total sample and the subsample without asset sales. The z statistics for the change from year -1 (usually) to the first available post-MBO year is 2.71 for the total sample (.090 probability level), and 0.90 (.548 probability level) and 3.04 (.052 probability level) for the subsamples with and without asset sales.

To provide evidence on the contribution of corporate tax savings to the increase in profitability documented above, results are also presented for the return on operating assets and for profit margins on a pre-tax basis. In addition, the ratio of tax bill to sales is included as a performance measure. The sample median of the ratio of tax bill to sales declines from a low of 1.8 percent before the MBO to .5 percent in the year following the MBO with a median decline of 1.2 percent.[33] The decline upon the MBO in the corresponding relative ratio reported in Table 4 and the z statistics associated with changes in the relative ratio upon the MBO suggest that the decline is not experienced industry-wide. This is not surprising given the increase in interest deductions associated with debt borrowed to finance the MBO and the potential to step up the tax basis of assets. Additional support for the increase in interest deductions associated with the MBO financing is provided by the significant increase in the financial leverage as reflected by the increase in the ratio of debt to tangible assets and the decrease in the interest coverage ratio.[34]

Although corporate tax savings associated with the MBO do appear to contribute to the increase in the after-tax profitability measures, the increases in the corresponding profitability measures on a pre-tax basis

also tend to be highly significant. The probability level associated with the z statistic for the pre-tax operating return is .016 and <.001 for the total sample and the subsample without asset sales, and .119 for the subsample with asset sales. The corresponding probability levels for the pre-tax profit margins are all .024 or better.[35]

The final overall profitability measures compare the operating cash flows before and after tax, and sales with the number of employees. The median values of the ratio of operating cash flows to employees reported in Table 4 suggest that both the absolute and relative values increase considerably upon the MBO both before and after taxes. The median increase from a pre-MBO high in year -1 of $5,731 per employee after tax ($8,889 per employee before tax) is approximately $3,600 per employee both before and after taxes. The sample-wide z statistic is significant at the .024 probability level or better on a before and after tax basis. These results do not appear to be driven primarily by either the subsample with or without asset sales. Hence, the increase in return on operating assets reported above does not appear to be due to a shift in input from capital to labor. The median values of the number of employees per dollar of sales reported in Table 4 and the corresponding z statistics in Table 5 do not suggest a change associated with the MBO.[36]

The results in Tables 4 and 5 suggest an overall tightening of working capital management as reflected in the behavior of the ratio of sales to working capital. The z statistic for the total sample of 7.60 is significant at the .019 probability level, with the stronger results for the subsample without asset sales. The results provide some support for a change in two aspects of working capital management considered, i.e. the inventory holding period and the accounts receivable collection period. The median inventory holding period declines from 70.7 days in year -1 to 65.6 days in year +1.[37] The median inventory holding period is approximately one week less than the industry average in year -1 and two weeks less than the industry average in year +1. The percentile of the z statistic ($z = -1.61$) for the change in relative holding period of the total sample is 22.3, indicating that even a one-tailed test is not significant at conventional levels. However, the percentile of the z statistic for the subsample without asset sales ($z = -3.80$) suggests that only 10.2 percent of the 1000 trials produced a smaller z statistic. No evidence of a decline in inventory holding period is provided for the asset sale subsample.

The median change in absolute and relative receivables collection period reported in Table 4 suggest only a slight acceleration associated with the MBO. However, the average (not reported in Table 4) absolute and relative decreases in the collection period are 5.0 and 10.2 days, respectively, from the year preceding to the year following the MBO. Only 1.1 percent of the 1000 trials produce a z statistic lower than that for

the total MBO sample (z = -4.29). The corresponding percentiles for z statistics of the subsamples with and without asset sales are 3.1 and 10.8 respectively.

In contrast to the evidence of a change in inventory holding period and receivables collection period, the results do not provide support for a change in the accounts payable period. Although the z statistic is positive (z = 2.59), approximately 41 percent of the 1000 trials produce a higher z statistic. Similar results are documented for both subsamples.

Finally, Tables 4 and 5 present preliminary evidence on the proportion of sales represented by capital expenditures, advertising expense, R & D expense, and maintenance and repairs expense. These measures are included to provide insights into whether "discretionary" expenditures (which allegedly contribute to cash flows in the long run) are reduced to increase short run net cash flows. However, with the exception of capital expenditures, the number of firms with post-MBO observations is only about a third of the sample or less, suggesting a cautious interpretation of results.

The results for the maintenance and repairs expense and the advertising expense, and R&D expense do not suggest a material sample-wide reduction in these expenditures. The median ratio of maintenance and repairs expense to sales is unchanged from year -1 to year +1. (The medians of all other years are based on so few observations as to be potentially misleading).[38] The median change in the ratio of advertising expense to sales is a decrease of .001 from a pre-MBO high of .027 in year -1. The relative change in this ratio upon the MBO is insignificant for the total sample and the subsample without asset sales. However, only 5.7 percent of the 1000 trials produce a z statistic lower than that for the 12 observations from the asset sale subsample (z=0.01).

The median ratio of R&D expense to sales increases from .012 in the year preceding the MBO to .018 in the year following the MBO, with a median change of 0.00 for the seven firms with available data. The z statistic in Table 5 is not significant at conventional levels for the total sample or for the subsample without asset sales (2 firms). However, only 1.5 percent of the 1000 trials produce a lower z statistic than that of the asset sale subsample (z=-1.96). The implication of this result for the underlying population of MBO's, however, is highly questionable because missing R & D data prior to the MBO for the remaining sample firms is likely to be the result of immateriality.[39]

Finally, in contrast to the results for advertising, maintenance and repairs, and R&D expense as a portion of sales, the medians reported in Table 4 and the z statistics reported in Table 5 are consistent with a significant decline in the ratio of capital expenditures to sales upon the MBO. The median proportion of sales spent on property, plant, and equipment

decreased from .036 in year -1 to .022 in year +1. (Note, however, the median decrease in the level of capital expenditures, per se, is $0.59 million, only a 4.6 percent reduction from the year -1 median capital expenditures of $12.69 million while the average decrease is $7.41 (25.4 percent) from the year -1 average of $29.20 million). The z statistics are highly significant for the total sample (z = -7.61) and for the subsamples without asset sales (z=-4.28), with less than 5 percent and 0 percent of the 1000 trials producing a lower z statistic. Although the ratio of capital expenditures to sales is included with other "discretionary expenditures" for the sake of completeness, a reduction in this ratio does not increase the operating cash flows because capital expenditures are considered a non-operating use of cash.[40]

6.2 The Cross-sectional Relation Between Changes in Corporate Performance and Ownership Structure.

The second phase of the analysis estimates the cross-sectional relation between the change in corporate performance and the change in ownership structure. To investigate the hypothesized relation between changes in profitability and changes in the aspects of ownership structure, the following cross-sectional regression model is estimated:

$$\Delta PERF(i) = a + b1\ \Delta DEBT/TANGIBLE\ ASSETS(i) + b2\ \Delta OFFICER(i) + b3\ \Delta OUTSIDE\ DIRECTOR(i) + b4\ \Delta OTHER\ MAJOR\ HOLDER(i) + e(i)\ ,$$

where $\Delta PERF(i)$ = the change in the relative return on operating assets (before or after tax) of firm i from the pre- to the post-MBO period,

$\Delta DEBT/TANGIBLE\ ASSETS(i)$ = the change in the financial leverage ratio of firm i from the pre- to the post-MBO period,

$\Delta OFFICER(i)$ = the change in the percent of outstanding common stock held by corporate officers of firm i from the pre- to the post-MBO period,

$\Delta OUTSIDE\ DIRECTOR(i)$ = the change in the percent of outstanding common stock held by outside directors of firm i from the pre- to the post-MBO period,

$\Delta OTHER\ MAJOR\ HOLDERS(i)$ = the change in the percent of outstanding common stock held by other major stockholders of firm i from the pre- to the post-MBO period.

A positive relation is expected between each performance measure and the explanatory variables. However, the nature of this estimated relation is expected to differ for the subsample of firms with versus without major asset sales following the MBO. For the subsample without major asset sales, the physical assets in place are likely to be similar before and after the MBO. Hence, the effects on profitability of implementing new cost-cutting programs, reducing the capital tied up in inventory and receivables etc.

and other actions designed to increase the returns from operations are less likely to be confounded with the effects of a change in the asset base. For the asset sale subsample, the sale of major assets may be motivated as much by the immediate demand for cash to service the debt burden as by the incentive to improve operating returns. Given the potentially confounding effects of such asset sales on the change in profitability measures, any incentive effects of the change in ownership structure of these firms is less likely to be detected in the cross-sectional analysis.

Table 6 summarizes the cross-sectional regression results. As predicted, Chow Tests of the null hypothesis that the structural relation between the change in each profitability measure and the change in ownership structure is the same for the subsamples with and without asset sales are statistically significant at better than the .05 probability level. Regression results are reported separately in Table 6 for the two subsamples. The correlation coefficient between each pair of explanatory variables is also reported for the separate subsamples.[41]

The regression results for the subsample without major asset sales support the hypothesized relation between changes in profitability and changes in ownership structure. The model F statistics are significant at better than the .01 level with adjusted R2 of .50 (before-tax) and .55 (after-tax). The estimated coefficient on the change in debt/tangible assets is positive, as expected, and significant at better than the .10 and .05 levels for the model of changes in before-tax and after-tax profitability, respectively. The estimated coefficient on the change in the percent of common stock owned by officers is positive, as expected, and significant at the .10 level for the after-tax profitability model only. Both the estimated coefficients for the change in the percent of common stock owned by the outside directors and the other major stockholders are positive, as expected, and significant at better than the .05 level for both the before-tax and after-tax profitability models.

In contrast, the results for the asset sale subsample are weak, with model F statistics insignificant at the .10 level for both the before and after tax performance measures.[42]

6.3 Information Asymmetry

The positive cross-sectional association between the change in relative return on operating assets and the changes in ownership structure upon sample MBO's is consistent with favorable incentive and monitoring effects of MBO's. However, causality cannot be inferred unambiguously. An alternative explanation for the significant association between the change in relative returns and the change in ownership structure is that the buyout group had private information about the increase in future operating returns (not necessarily requiring a change in managers' actions) which encouraged the increase in its equity stake in the firm.

Two factors cast doubt on asymmetric information as the primary explanation for the results above. First, the question arises as to why, in equilibrium, rational stockholders would trade with investors (i.e. managers) whose sole apparent motive is to exploit private information. (See, for example, Milgrom and Stokey [1982]). Although some MBO's may be motivated by private information regarding increases in future operating returns, equilibrium arguments reduce the plausibility that this is the sole motivation.

Second, to the extent the sample and nonsample MBO's belong to mature, stable, non-R&D oriented industries, the asymmetric information explanation is less appealing than it would be for hi-tech, high-R&D firms. Furthermore, very little qualitative evidence is provided in the post-MBO 10K reports, annual reports, or registration statements of sample firms of the nature one would expect if managers' privately anticipated an improved "state of nature". In contrast, references are made to the implementation of cost cutting programs, tightening of inventory and receivable controls, reorganization of manufacturing facilities, redeployment of assets, etc. and other apparent changes in the management of the firms' operations.[43]

In spite of the two factors above, the hypothesis cannot be ruled out that the increase in relative operating returns after MBO's reflects the realization of gains privately anticipated by the buyout group. Two additional issues are investigated here in an attempt to provide (indirect) evidence regarding this alternative hypothesis.

First, if MBO proposals are associated with favorable inside information regarding the future operating returns, one might expect the operating gains (pre-tax) to be realized subsequently, even in the absence of a change in ownership structure.[44] Hence, an increase in operating returns following unsuccessful MBO proposals (i.e. not completed) would support the information asymmetry hypothesis.[45] A "permanent" increase in the price of the common stock upon the announcement of the MBO proposal, (even after the proposal fails), would provide additional support for the hypothesis.

Marais, Schipper, and Smith [1989] report average (median) market-adjusted stock returns following the announcement of unsuccessful MBO proposals of -15 (-16) percent in comparison to the average abnormal returns of +13 (+13) percent upon the announcement of both successful and unsuccessful proposals. These results do not suggest a "permanent" price increase as is implied by the information asymmetry hypothesis. In addition, post-proposal (accounting) performance data are available for 24 firms in the Marais, Schipper, Smith [1989] sample whose MBO proposal failed due to stockholder or board rejection (8 firms), withdrawal of the proposal (10 firms), a higher outside bid (3 firms), or unknown reason (3 firms). In contrast to the results in Table 4, the operating returns of the unsuccessful MBO's do not tend to increase in the year following the initial public announcement of the MBO proposal. The median return on

operating assets (pre-tax) ranges over the five-year period preceding the MBO announcement from a low of .13 in year -3 (relative to the year of the announcement) to a high of .178 in year -1. In the year of the proposal and the following year, the median return on operating assets is .12 and .175, respectively. There is support for neither an increase in operating asset turnover nor an increase in "profit margin" (i.e. operating cash flows/sales). For both measures, the median value in the year of the proposal is lower than that in any of the preceding five years, and the median the following year is lower than that in four of the five years preceding the proposal. Finally, although the median operating cash flows (pre-tax) per employee is higher in the proposal year than in any of the preceding five years, the following year the median drops below that of any of the five pre-proposal years.[46]

The second type of indirect evidence concerns the relative increase in operating returns after sample MBO's characterized as defensive (16 firms) versus nondefensive (42 firms), and characterized as initiated by current management (30 firms) or not (28 firms). Nondefensive MBO's (i.e. not preceded by a 13D filing, rumors of an impending outside takeover offer, or a formal outside offer within the last year) and/or offers initiated by the current management group are arguably the most likely context for potential gains from trading on inside information via the MBO. However, the increase in operating returns upon these sample MBO's tend to be no higher than the increase in operating returns upon remaining sample MBO's (results available from author).

6.4 Self-Selection Bias

The results presented above are based on the MBO's which have subsequently completed a public offering of common stock, maintained a public market in debt or preferred stock, or agreed to provide confidential financial statements. The change in performance associated with this set of MBO's may differ systematically from the change in performance for the MBO's which did not satisfy one of the three sample selection criteria. The analysis in this section attempts to provide insights into the bias introduced by the sample selection procedures.

Empirical Distribution (Under Null) of Aggregate Z Statistic for Operating Returns of "Winners"

The first approach generates an empirical distribution of the aggregate z statistic for the post-MBO relative operating returns of the "winners" of all 215 MBO's under the null hypothesis that no change in the distribution of relative operating returns is associated with the MBO. The motivation is to assess the significance of the increase in operating returns of the sample MBO's reported in Table 5 assuming the most extreme selection bias- i.e. that the sample selection criteria identify the firms from all 215 sample candidates with the biggest increase in operating

returns upon the MBO. Two measures of operating returns are considered: 1) operating cash flows (after tax)/operating assets, and 2) operating cash flows (after tax)/employees. For illustration purposes, the return on operating assets (i.e. ratio 1) is used as the measure under consideration.

To generate one observation on the aggregate z statistic, the first step is to randomly shuffle the year of completion of the 215 MBO's. A pseudo-MBO year is assigned to each firm defined as the year two years before the year selected by the shuffling procedure. Then, individual z statistics are computed for each of the 215 firms with sufficient available Compustat data to estimate the relative return on operating assets prior to and one year following the assigned pseudo-MBO year. Finally, the highest 53 z statistics (i.e. the "winners") are included in the aggregate z statistic. The number of individual z statistics aggregated equals the number of the 58 sample MBO's available for inclusion in a "true" z statistic based on the first actual post-MBO year.

The procedure described above used to generate one observation on the aggregate z statistic is repeated 200 times, each time with a different random shuffling of the year of completion of the 215 MBO's. The entire procedure (including 200 trials) is then repeated using three years before the year assigned by the shuffling procedure as the pseudo-MBO year, four years before,...,six years before, producing a total of 1000 observations on the aggregate z statistic for the return on operating assets of the "winners".

The procedures above generated a "true" sample z statistic for the return on operating assets of 8.65, which is the 32 percentile of the empirical distribution. Hence, the sample z statistic for the return on operating assets is not significantly greater than expected by chance, under the assumption that the 53 of all 215 firms with the biggest increase in relative operating returns are identified by the sample selection criteria. In contrast, the "true" sample z statistic for the returns per employee is 23.85, which is the 100 percentile of the corresponding empirical distribution. Hence, it appears highly unlikely that self-selection bias alone can explain the increase in the relative return per employee upon sample MBO's.

To provide additional insight into the extent to which self-selection bias alone can explain the increase in relative return on operating assets of the sample, a weaker, and perhaps more plausible version of selection bias is considered, i.e. that the IPO sample criterion only introduces a selection bias.[47] To generate the empirical distribution under this assumption, the procedures are modified by aggregating the top 15 individual z statistics (i.e. the number of sample IPO's included in the "true" aggregate z statistic) and 38 additional z statistics selected at random from the remaining z statistics for the 215 MBO's. The sample z

statistic of 8.65 represents the 86 percentile of this empirical distribution.[48]

Selection Criteria Subsamples

The second approach used to address the issue of selection bias compares the significance of the increase in relative operating returns of individual firms in the subsample of IPO's versus the remaining two subsamples.[49] The empirical distribution of the individual z statistics for the relative return on operating assets (or relative return per employee) of all 215 MBO's generated by the procedures above (without the final aggregation) is used to evaluate the significance of the increase in returns of the individual subsample firms.

Figure 1A plots the fraction of the subsample of IPO's with z statistics for the relative return on operating assets in each decile of the empirical (null) distribution. The fraction of the combined remaining subsamples (i.e. confidentially released financial statements or public debt/preferred stock outstanding) with z statistics in each decile is also plotted in Figure 1A. As the figure suggests, 33.3 (59.9) percent of the IPO subsample z statistics are in the top decile (top three deciles), while 31.6 (52.7) percent of the remaining subsamples are in the top decile (top three deciles). Analogous results are plotted in Figure 1B for the relative return per employee. As indicated in Figure 1B, 40.0 (46.7) percent of the IPO subsample z statistics are in the top decile (top three deciles), while 33.3 (74.0) percent of the remaining subsamples are in the top decile (top three deciles). These results do not suggest a strong tendency for the increase in relative performance associated with the MBO's of firms with a subsequent IPO to exceed that for the remaining subsamples.[50]

Analysis of Dun's Financial Profile Reports

The third approach used to address the issue of sample selection bias compares sample-wide changes upon the MBO in performance measures with analogous results for the nonsample MBO's (of the 215 sample candidates) with condensed post-MBO financial statements (i.e. Dun's Financial Profile Reports) available for at least one year from Dun & Bradstreet Credit Services. Dun's Financial Profile Reports are available for privately held companies for which financial data are requested by potential suppliers, customers, bankers, or other subscribers considering doing business with the firm, subject to the firm's release of the data to Dun & Bradstreet. The nature of the bias introduced by this selection procedure may differ from that introduced here.

Table 7 presents the quartiles and the average change in each of the "14 Key Business Ratios" identified by Dun & Bradstreet from the most recent pre-MBO year to the soonest post-MBO year for the nonsample MBO's (hereafter referred to as the D&B sample) and the sample MBO's. Figures 2A and 2B plot the distribution of the change in each of two additional ratios

upon the MBO of the two samples- 1) net income/operating assets and 2) net income/employee. These two ratios are the closest substitute for the operating return measures above which can be calculated given the data included in the Financial Profile Reports. For none of the ratios examined in this subsection is an attempt made to adjust the ratios of either sample for the impact of purchase accounting.

The results do not suggest that the increase in profitability associated with sample MBO's exceeds that of the D&B sample. All three quartiles and the average change in the three profitability measures reported in Table 7 (ratios 1-3) for the D&B sample are greater than or equal to the corresponding statistic for sample MBO's. Similarly, the histograms in Figure 2A and 2B do not suggest a higher increase in either net income/operating assets or net income/employee for sample MBO's.[51] In addition, the changes in inventory turnover, accounts receivable collection period, and the ratio of sales to working capital for the D&B sample tend to be at least as strong as those for the MBO sample. The three quartiles and the average increase in the proportion of capital supplied by short-term debt are higher for the MBO sample. Together these results (i.e. ratios 11 and 4-7) suggest that the reduction in capital tied up in the inventory and receivables of the D&B sample, rather than a bigger increase in short-term debt, contribute to the higher reduction in the current ratio for the D&B sample.

Comparison with Results in Bull [1987,1988]

Bull[1987,1988] documents changes in performance measures from the two years preceding to the two years following 25 MBO's completed during 1971-1983. Prior to the MBO, eight of the 25 were public companies, six were private companies, and eleven were subsidiaries/divisions. The sample was selected by obtaining confidential post-MBO financial data from six institutional investors regarding each of their MBO investments. Sample candidates with major acquisitions or divestitures in the two years preceding or following the MBO were excluded. Because Bull's sample selection procedures did not rely on the three criteria used in this study, it is unlikely that the same selection bias is introduced.

Bull's sample firms tend to be smaller than the sample firms here, with mean sales in the year preceding the buyout of $266.40 million, as compared to $612.77 million for the sample here. Management ownership of common stock in Bull's sample averages 27 percent after the MBO, as compared to 35 percent for the sample here.

Table 8 reports the average and standard deviation of five performance measures for each of the two years preceding and following Bull's sample MBO's: sales, free cash flows/sales, tax expense/sales, capital expenditures/sales, and interest expense/sales.[52] For comparison purposes, analogous results are also reported for the total sample used in this study

and the separate subsamples with and without asset sales in the post-MBO period. In addition, t statistics and probability levels associated with a paired-comparison t test of the mean performance measure in the pre- versus post-MBO period are reported. Although the probability levels for the sample used here are highly suspect due to the non-normality of the distribution of performance measures, the results are reported for comparison with those in Bull[1987,1988].

The results in Table 8 do not suggest that the increase in operating cash flows in the post-MBO period reported above are the result of the sample selection criteria imposed here. For the Bull sample, the average ratio of free cash flow/sales increases from .043 before the MBO to .089 after the MBO. (t statistic of 5.04 with probability level <.001). For the total sample used here, the corresponding ratio increases from .022 to .077. (t statistic of 3.04 with probability level of .004). The results in Table 8 also suggest that the Bull sample tends to experience a decline in the tax bill and the level of capital expenditures, and an increase in the interest expense after the MBO similar to the patterns documented for the sample here. Finally, a moderate increase in sales following the MBO is experienced by both the Bull sample and the subsample here without major asset sales. As expected, the asset sale subsample experiences a decline in the level of total sales following the MBO.

Changes in Sales, Employees, and Employees/Sales

Data on sales and number of employees are available in annual volumes of Dun's Million Dollar Directory or the DATEXT database after 92 of the MBO's excluded from both the sample and the analysis of Dun's Financial Profile Reports. Since the sales and employee data in Dun's Million Dollar Directory appear to be reported with a two-year lag, data are collected from the annual volumes for three and four years after the year the MBO was completed to approximate the figures corresponding to years +1 and +2. Sales and employee data in the five years preceding the MBO are obtained from Compustat. For comparison purposes, analogous data are collected for the 34 firms in the MBO sample included in Dun's Million Dollar Directory.[53]

The quartiles of sales, employees, and ratio of employees/sales for the two samples are reported in Table 9 for the five-year pre-MBO period, two-year post-MBO period, the change (post-period minus pre-period values), and the percentage change. The 92 firms excluded from the MBO sample appear to be considerably smaller than the MBO sample on the basis of both sales and employees. However, the change in operating returns of the MBO sample (before and after tax) is not highly correlated with firm size as measured by the average sales in the five-year pre-MBO period.[54]

The quartiles of the ratio of employees/sales are almost identical for the two samples in the pre and post-periods as well as the total and percentage changes. Given that the change in the ratio of employees/sales

is the most highly correlated with the change in operating returns of the MBO sample, the change in the ratio appears to be the most useful proxy available for the change in operating performance of the 92 firms excluded from the MBO sample.[55] The similarity in the change in the ratio of employees/sales for the MBO sample and the 92 excluded firms provides no evidence that the change in operating performance documented for the MBO sample is the result of the sample selection criteria.

Subsequent Events: Bankruptcy and CEO Replacement

The final approach used to address the issue of selection bias is the relative frequency of two "negative events" after the buyout for the MBO sample versus the excluded sample candidates- bankruptcy and the replacement of a CEO of less than a normal retirement age (65). To investigate bankruptcy experience after the buyouts, four sources were used: 1) Predicasts Index of Corporate Change (including all issues from 1974 through the second quarter of 1988), 2) Dun's Million Dollar Directory, 3) DATEXT, and 4) Commerce Clearing House Capital Changes Reporter. These sources identified four of the 157 nonsample firms (of the 215 total sample candidates) which declared bankruptcy subsequent to the MBO, in contrast to one sample firm. Hence, these sources identified a bankruptcy rate of 2.5 percent and 1.7 percent for the nonsample firms and sample firms, respectively.[56]

The second post-buyout event considered is the replacement of the CEO under the age of 65. The distinction of whether or not a CEO younger than 65 is replaced is found to be related to the change in operating returns of the MBO sample. Specifically, the median (mean) change in operating returns from the pre- to the post-MBO period is .008 (-.034) for the subsample of 7 MBO's with the replacement of a CEO younger than 65 in the two years following the MBO. This median is significantly less (at the .05 probability level) than the median of .077 for the subsample of MBO's which did not replace a CEO younger than 65 (mean of .082).

Data on the identity of the CEO for the year preceding the MBO and the two years following the MBO are available in Dun's Million Dollar Directory for 104 of the sample candidates excluded from both the sample and the analysis of Dun's Financial Profile Reports. In each case in which the identity of the CEO changed, the age of the CEO at the time of replacement was estimated on the basis of the CEO's age as of the most recent 10K report prior to the MBO. For 102 of the MBO's, sufficient data were available to determine whether or not a CEO under the age of 65 was replaced by the end of the post-MBO period. For 7 of these 102 MBO's (7 percent), a CEO younger than 65 was replaced in the post-MBO period. To the extent that replacing a CEO younger than 65 is associated with poor post-MBO operating performance, the relatively high frequency of CEO replacement in the MBO sample (7 of 58 or 12 percent) as compared to the excluded MBO's (7 of 102 or 7 percent) provides no support that the sample selection procedures introduced a positive bias in the measurement of changes in operating returns.

7. Summary and Conclusions.

The results suggest an increase in the relative return on operating assets and the relative operating cash flows per employee for the total sample of 58 MBO's completed during 1977-86 and for the 2 subsamples with and without subsequent divestitures. Decomposing the operating returns into the product of the profit margin and the ratio of sales to operating assets or employees suggests a significant increase in both components. Corporate tax savings contribute to the after-tax operating gains. However, the pre-tax operating returns also increase significantly upon the MBO.

The results suggest a reduction in the resources tied up in working capital upon the MBO. Some evidence is provided of both a reduction in the inventory holding period and receivables collection period, but not of an extension of the period for paying suppliers.

The results provide little support for the allegation that pervasive cutbacks in "discretionary expenditures" such as research and development, advertising, and maintenance and repairs (presumably endangering the long-run cash flows) are responsible for the short-run increase in operating cash flows. The expenditures for maintenance and repairs and advertising as a percent of sales are largely unchanged upon the MBO. The relative ratio of R&D expense to sales decreases significantly upon the MBO for the 5 firms in the asset sale subsample with available data. However, the generalizability of these results is highly questionable because of the likely immateriality of R&D expenditures of nondisclosers. Finally, although the ratio of capital expenditures/sales is reduced after the MBO, the reduction in this ratio does not contribute to the operating gains documented because capital expenditures are treated as non-operating uses of cash.

Preliminary analysis of the cross-sectional relation between changes in operating returns and changes in corporate ownership structure (as reflected in the financial leverage and the percent of common stock held by officers, outside directors, and other major holders) associated with the MBO leads to rejection of the null hypothesis that the relation is the same for the subsamples of firms with and without major asset sales after the MBO. Regression results for the firms without major asset sales suggest a positive relation between the change in operating returns and the changes in financial leverage and percentage stockholdings by officers, outside directors, and other major stockholders. These results are consistent with the hypothesized effects of increasing the debt burden (i.e., reducing investments in negative net present value projects by precommiting cash flows to meet interest and principal obligations), of increasing officers' stockholdings (i.e., discouraging officers' private returns by increasing their costs), and of increasing the concentration of equity holdings by outside board members and other major stockholders (i.e., reducing managers' discretion by encouraging monitoring by investors with a significant stake in the residual cash flows).

In contrast, the regression results for the subsample of firms with major asset sales after the MBO do not suggest a strong relation between the change in operating returns and the changes in the percentage stockholdings by officers, outside directors, and other major stockholders. For this subsample, the change in operating returns represents the net effects of both a major change in the configuration of assets and any change in executives' actions from the pre-MBO to post-MBO period. Hence, any effect of the changes in managers' actions (resulting from the changes in the corporate ownership structure) on the returns to the subset of assets managed both before and after the MBO are confounded by the effect of reconfiguring the assets. Given the difficulty in isolating the effect of a change in managers' actions on the dependent variable of the asset sale subsample, it is not surprising that the coefficients on the stock ownership variables are insignificant.

Evidence is provided on two additional issues to facilitate the interpretation of results. The first issue is the extent to which the significant increase in relative profitability documented for the sample of 58 MBO's can be generalized to the population of MBO's. Six approaches are used: 1) evaluate the significance of the increase in operating returns for the sample against an empirical (null) distribution based on all 215 sample candidate MBO's, assuming the sample selection procedures identify the firms with the biggest increase in operating returns; 2) compare the increase in operating returns across the selection criteria subsamples; 3) compare changes upon the MBO of Dun & Bradstreet's "14 Key Business Ratios" for the sample versus nonsample firms with post-buyout data available from Dun & Bradstreet; 4) compare changes upon the MBO in selected performance measures for the sample with the results in Bull [1987,1988] for divisional and whole-company buyouts not selected on the basis of the criteria here; 5) compare changes in sales, employees, and the ratio of employees/sales upon sample buyouts with analogous results for nonsample MBO's with available data; and 6) compare the frequency of two negative post-MBO events for sample versus nonsample buyouts- i.e. bankruptcy and CEO replacement. Overall, the results do not tend to provide evidence that the increase in operating returns associated with sample MBO's can be attributed to the sample selection procedures.

The second issue considered is whether favorable inside information regarding future cash flows explains the increase in operating returns associated with MBO's. Nondefensive MBO's and/or MBO's initiated by the current management are arguably the most likely context for potential gains from trading on inside information via an MBO. However, the increase in operating returns upon these sample MBO's tend to be no higher than the increase in operating returns upon the remaining sample MBO's. A second potential implication of the information asymmetry hypothesis considered is that increases in operating returns also follow MBO proposals which failed

due to board/stockholder rejection, withdrawal, or a higher outside bid. No such increase is found in the year following 24 unsuccessful MBO proposals. In light of the indirect nature of these tests, the hypothesis cannot be ruled out that the increase in relative operating returns after some MBO's reflects the realization of gains privately anticipated by the buyout group. However, equilibrium arguments further reduce the plauibility that this is the sole explanation.

A remaining issue to be addressed in future work is whether the apparent increase in the average level of operating returns following the MBO tends to be associated with an increase in the risk of operating returns. The increase in debt in the capital structure tends to increase the risk of the returns on stockholders' equity after the MBO due to financial leverage. However, the risk of the return on operating assets considered here, measured before fixed payments to debtholders, is not directly affected by financial leverage. Nevertheless, the change in management's actions associated with the changes in financial leverage and ownership structure may lead to changes in the risk of the operations.[57] The change in the risk of operations is especially important to consider in light of the strength of the economy in the post-buyout period most heavily represented in the sample. The examination of risk (currently in process) is designed to contribute to a more complete understanding of the change in corporate performance associated with MBO's which incorporates potential recessionary effects.

F O O T N O T E S

[1]In addition, equilibrium arguments reduce the appeal of such an explanation. See section 6.3.

[2]See, for example, Adam Smith [1776].

[3]Ravenscraft and Scherer [1987] investigate the impact of corporate takeovers on the profitability of target firms. Hence, although Ravenscraft and Scherer [1987] do not address the association between corporate performance and ownership structure per se, they do investigate changes in performance associated with a change in control. No evidence is provided of an increase in operating profitability after the takeover. See footnote 35.

[4]The Herfindahl Index is defined as the sum of the squared percentage holdings of each stockholder.

[5]Demsetz and Lehn [1985] control only for variation in performance across four broad categories: public utilities, financial institutions, media companies, and other (includes manufacturing and mining).

[6]Earlier cross-sectional studies include Kamerschen [1968], Monsen, Chiu, and Cooley [1968], and Stigler, Friedland [1983]. Note that a potential threat to the internal validity of these cross-sectional studies is the failure to control for other determinants of corporate performance such as the ability and utility function of managers, the configuration and condition of the asset base, and the state of nature (e.g., regulatory

climate, factor prices, consumer demand etc.).

[7]Mayers, Smith [1986] adopt a similar approach in their examination of the effects of mutualization on the efficiency of stock life insurance companies.

[8]Bull [1987, 1988], Kaplan [1988], and Muscarella/Vetsuypens [1988] independently examine post-MBO performance for evidence of efficiency gains.

[9]A shift in ownership structure upon an MBO may also be associated with a subsequent increase in operating returns if the buyout group has inside information regarding these returns which is not fully reflected in the market price of the target company stock prior to the buyout. See section 6.3.

[10]Jensen [1986] discusses potential agency costs of free cash flows and suggests that increasing the corporate debt load as in a leveraged buyout may be an effective means of improving corporate efficiency. This theme is further developed in Kensinger and Martin [1986].

[11]In addition, the lower the growth opportunities and the higher the free cash flows prior to going private, the stronger the improvement in relative performance is expected upon the MBO. As suggested by Jensen [1986], managers of firms with few growth opportunities and strong free cash flows may be more likely to invest corporate resources in negative net present value projects before the MBO. Future drafts will investigate whether the change in performance upon the MBO is related to measures of growth opportunities and free cash flows prior to the MBO.

[12]In fact, 16 sample going private transactions appear to be motivated, at least in part, by the managers' desire to avoid the threat of a hostile takeover.

[13]Marais, Schipper, and Smith [1989] sample of MBO proposals was obtained primarily by searching two databases via the Dow Jones News Retrieval Service for key phrases related to going private and management buyouts: 1) Dow Jones News (which includes the Broadtape and selected stories from The Wall Street Journal and Barron's) from June 1979 - November 1985, and 2) The Wall Street Journal full text from January 1984 - November 1985. Additional sample MBO proposals were obtained from a search of the Wall Street Journal Index for the years 1974-1978 under the names of well-known leveraged buyout specialists. Their final sample consists of 290 management buyout proposals of 264 NYSE, ASE, or OTC firms concentrated primarily in the period 1981-85. Firms which did not ultimately go private through a management buyout were excluded from the sample. For example, excluded firms may have been acquired by a private company with existing operating assets.

[14]The sample selection procedures may introduce a serious self-selection bias. Section 6.4 investigates the nature and extent of the apparent bias.

[15]Although the empirical analysis relies on 4-digit codes as designated on Compustat, 2-digit codes are used to summarize the industry membership of sample and non-sample MBO's in Table 2. On the basis of 4-digit codes, the 2 industries most heavily represented in the samples are apparel products and textile mill products with 5 and 3 firms in the samples, respectively. The 8 sample firms in the 2-digit food industry represent 5 4-digit codes: beet sugar (1), soft drink (2), candy and other confectionery (2), cane sugar (1), and refining meat products (2).

[16]The operating cash flow measure is defined as the net increase in cash and marketable securities arising from "normal" operations, without considering royalty, dividend, or interest income, or gains/losses from the sale of PPE, extraordinary items, or payments of interest or dividends.

[17]There may be an indirect effect of financial leverage on operating efficiency as proposed in Jensen [1986] and discussed above.

[18]In addition to the potential impact on accrual profit measures of changes in accounting methods associated with the going private transaction, managers may manipulate accruals in the period preceding the buyout. See DeAngelo [1986].

[19]Recaptures of previous tax benefits from accelerated depreciation, investment tax credits, and LIFO reserves tend to offset such tax advantages. See Schipper and Smith [1988].

[20]Tax savings associated with an increase in interest deductions following the MBO do not affect the return on operating assets ratio because the ratio is calculated before both interest deductions and their tax effects.

[21]Conformity with regard to asset write-ups is not required between the tax return and financial statements issued to stockholders.

[22]The importance of eliminating the potential impact of asset writeups on the profitability measure is highlighted by the evidence in footnote 35.

[23]The optimal holding period for inventory depends in part on the length of the production period, the product life, and the storage costs which tend to vary considerably by industry (i.e., product). Efficient inventory management involves a trade off between the costs of overstocking (e.g., excess storage costs, insurance, risk of loss in inventory value through obsolescence and perishability) and the costs of understocking (e.g., lost sales, overtime costs for rush orders etc.).

[24]The evaluation of firm performance by comparison with other firms facing similar business risk as summarized by an industry index has a long standing tradition among investment analysts. For prior evidence regarding the specification and fit of industry index models of financial accounting performance measures, see, for example, Brown and Ball[1967], Gonedes [1973], Magee[1974], Barnea, Sadan, and Schiff[1975], and Foster[1986].

[25]The small number of observations for each performance series precludes the consideration of more complex times series models.

[26]If the nonstandardized performance measure is not normally distributed, the standardized performance measure, $y(i,t)$, has an unspecified distribution with a mean and standard deviation which are not known precisely, but which approach 0 and 1 as $n(i)$ increases. Given that $n(i)$ does not exceed 15 here, asymptotic behavior is not directly relevant. In this case, the $z(i,t)$ computed by dividing the $y(i,t)$ by the theoretical standard deviation of a t distribution may not be exactly standardized as assumed by this application of the Central Limit Theorem. Although the $z(i,t)$ are not required to be normally or even identically distributed to invoke the Central Limit Theorem with regard to the distribution of the aggregate z statistic, the standard deviation of the mean of the $z(i,t)$ may not be well approximated by the inverse of the square root of the number of post-MBO firm-years. Hence, the aggregate z statistic may have a standard deviation which departs considerably from 1, even as the number of firm-years increases. In light of the unknown effects of departures from normality as well as the questionable validity of the IID and random walk models, an empirical distribution for the aggregate z statistic of each performance measure based upon 1000 replications on randomly selected MBO and non-MBO firms within the industries represented by the sample is used to evaluate significance levels.

[27]In a few cases, the pre-MBO observation in year -1 was unavailable and replaced by the value in year -2. In most cases, the first post-MBO observation occurred in year +1.

[28]Given the overlap among the components of the financial ratios, the tests of each performance measure are not independent.

[29]The distribution from which the level or change in a given performance measure is drawn is assumed to vary across firms prior to standardization. The medians reported in Table 4 for the nonstandardized performance measures are intended to merely summarize the sample values.

[30]To the extent the increase in operating returns in year -1 reflects operating changes introduced in anticipation of the buyout, the results above understate the increase in operating returns associated with the MBO.

[31]The z statistic for the asset sale subsample represents the 93.9 percentile of the 1000 trials of randomly selected MBO firms (in this subsample) and non-MBO firms in the same industries. Hence, the z statistic of 5.56 is significant at the .061 one-tailed probability level. The stratified shuffling subroutine used for the randomization is based on Noreen [1988].

[32]The increase in executives' stockholdings may be associated with a decrease in the current executive compensation expense (from a decrease in salaries and cash bonuses). However, the magnitude of this potential effect is unlikely to explain the substantial increase in profit margin documented.

[33]The median tax bill (not deflated by sales) drops from $7.9 million in the year preceding the MBO to $1.3 million in the year following the MBO. The median drop (by firm) exceeds $4 million.

[34]It is interesting to note that none of the z statistics are significant at conventional levels for post-MBO changes beginning in year +2 (not reported) with one exception. The relative ratio of debt to tangible assets is negative and significant for the total sample and for the subsample without asset sales in the post-MBO period. This is consistent with the repayment of debt beginning soon after the MBO is completed. While the median increase in interest expense from the year preceding to the year following the MBO is $15.4 million, the median change for each subsequent firm-year is a decrease of $1.2 million.

[35]The apparent increase in profitability after MBO's largely disappears if the profitability measures used are sensitive to asset writeups upon the buyout. The median value of relative operating income/total assets (the first of three profitability measures used in Ravenscraft and Scherer [1987]) is lower in the year following the MBO than in any of the 5 years preceding the MBO. The median values of relative operating income/sales and operating income before depreciation/sales (the remaining two profitability measures in Ravenscraft and Scherer [1987]) in the year following the MBO are unchanged from those over the 2 years preceding the MBO (the pre-tender offer period examined in Ravenscraft and Scherer [1987]).

[36]For the total sample, the median change in the number of employees (not deflated by sales) from the year preceding to the year following the MBO is an increase of 65 employees. For the subsample without asset sales, the median increase is 313 employees, while the median change is a decrease of 38 employees for the asset sale subsample. However, the median change in the deviation of the number of employees from the industry average is a decrease of 482 and 278 employees for the subsamples with and without asset sales, respectively. Hence, although sample firms do not tend to reduce the number of employees after the buyout, they tend to hire fewer new employees than other firms in the same industry.

[37]It is interesting to note the sample-wide decline in the inventory holding period from 78.2 days in year -2 to 70.7 days in year -1 which is not associated with an industry-wide decline. A potential explanation for this firm-specific decline in the inventory holding period in year -1 is the desire to free up corporate cash in anticipation of the completion of the MBO the following year.

[38]The relative ratio of maintenance and repairs expense to sales is omitted due to the lack of data on Compustat for firms included within the industry.

[39]Evidence that expenditures for R&D tend to be immaterial for sample firms is provided by both the infrequency with which the R&D expense prior to the buyout exceeds the threshold of 1 percent of sales requiring separate disclosure in the 10K report, and by the magnitude of the R&D expenses that are reported. During each of the 5 years preceding the MBO, only 3 to 5 sample firms reported R&D expenses exceeding $5 million. Approximately eighty percent of the sample firms did not disclose the R&D expense (implying an R&D expense of <1 percent of sales), or reported that the R&D expense was "insignificant" or zero.

[40]To the extent the level of capital expenditures is decreased upon the MBO, there may be a short-run increase in the return on operating asset ratio due to a decline in the book value of operating assets as plant assets are depreciated. However, given the small decline in the level of capital expenditures noted above, as well as the significant increase in the operating cash flows per employee, the increase in profitability can not reasonably be attributed to this potential effect.

[41]The next draft will investigate more thoroughly the potential misspecification of the cross-sectional regression model. The primary issues to be addressed are nonlinearity (especially in light of the nonlinear relation documented in Morck, Shleifer, and Vishny [1988]), non-normality, heteroscedasticity, and simultaneous equations bias.

[42]The two measures of asset sales used to classify firms into subsamples are affected by sales any time during the post-MBO period. If the asset sales tended to occur long after the MBO as a result of failed cost-cutting programs, and other failed efforts to increase productivity, the regression results reported for the separate subsamples would suffer from a selection bias. However, the asset sales were concentrated heavily in year 0 and +1.

[43]Muscarella and Vetsuypens [1988] report the frequency with which the implementation of cost cutting programs, improved management of inventory and accounts receivable, increase in productivity, changes in marketing plans etc. are described in the prospectus for the IPO of common stock of 18 previous (public company) LBO's and 54 divisional LBO's. Three-fourths of their sample firms reported at least one such "restructuring activity" after the LBO.

[44]A step-up in the tax basis of assets and subsequent depreciation tax savings associated with some MBO's requires that the assets change hands. Hence, these tax savings would not be realized in the absence of the change in ownership structure.

[45]The strength of this argument depends upon the factors responsible for the failure to complete the MBO proposal. For example, the management may withdraw an offer due to additional private information which is less favorable. Hence, self-selection of firms into successful versus unsuccessful MBO samples may introduce a bias which reduces the validity of using the unsuccessful MBO's as a control group here.

[46]In addition, the working capital ratios (i.e. sales/working capital, accounts receivable collection period, inventory holding period, and accounts payable period) provide no support for an adjustment in the management of working capital. It is also worth noting that the results are qualitatively the same for the 2 largest subsamples, i.e., proposal withdrawn and board/stockholders reject offer.

[47]Articles in the popular press often cite as a goal of the buyout group a public offering of common stock three to five years after the buyout to realize the gains achieved by "cashing out". If so, one might expect the IPO subsample to be associated with the strongest operating improvements.

[48]The 90 and 95 percentiles correspond to z statistics of 9.43 and 10.57, respectively.

[49]The firms with confidentially released financial statements are pooled with the firms with public debt or preferred stock outstanding because of the small number of observations for the former subsample (i.e. 8 firms with z statistics for the relative return on operating assets and two firms with z statistics for the return per employee.)

[50]An earlier draft reported results of a three-sample (corresponding to the three selection criteria subsamples) Brown-Mood test of the null hypothesis of equal median changes from a five-year pre-MBO period to the post-MBO period for each relative performance measure included in Tables 4 and 5. The null hypothesis of equal median changes is not rejected at the .10 level or better for any of the performance measures examined.

[51]Unlike the profitability measures reported in tables 4 and 5, these profitability measures are reduced after the buyout by asset writeups. Any increase in depreciation expense from the writeup of property, plant, and equipment, any increase in amortization of goodwill, and any increase in the cost of goods sold expense from the writeup of inventory, have a negative effect on the reported net income after the buyout. In addition, writeups of inventory and property, plant, and equipment tend to increase the denominator of net income/operating assets ratio.

[52]These five ratios were selected from a larger set documented in Bull[1987,1988]. The remaining ratios in Bull were not included due to their sensitivity to procedures Bull used to adjust for asset and liability writeups which differ from the writeup adjustment procedures used here. Free cash flows are computed by subtracting capital expenditures from the operating cash flows as defined above.

[53]For the 34 firms in both the MBO sample and the Million Dollar Directory/DATEXT sample, the correlation between the value averaged over all post-MBO years available from the financial statements (as used in this study) and the value averaged over the two years (or less) from the Million Dollar Directory/DATEXT is .85 and .99 for sales and number of employees, respectively.

[54]The rank correlations between the change in operating returns of the MBO sample (before and after tax) and firm size are only .07 and .06, respectively, with associated probability levels of .61 and .65. The corresponding rank correlations between the change in operating returns and firm size as measured by the number of employees are .11 and .13, associated with probability levels of .43 and .36, respectively.

[55]The rank correlations between the change in operating returns before and after tax and the total or percentage changes in sales or number of employees are not significant at the .10 level. In contrast, the rank correlations between the change in operating returns before and after tax and the total or percentage change in the ratio of employees/sales range from -.25 to -.41, with associated probability levels ranging from .005 to .09.

[56]For eleven of the nonsample firms, no record of the firm is found after the buyout in any of the four sources. If these eleven firms are excluded from consideration, the bankruptcy rate for nonsample firms increases to 2.7 percent. These sample and nonsample bankruptcy rates are understated to the extent that the four sources are incomplete. Furthermore, they may not fully capture all cases of extreme financial distress after the buyout in light of the possibility that "bailouts" or "workouts" are arranged as an alternative to bankruptcy. Nevertheless, according to Robert Haldeman, President of Zeta Services Inc., the rates are higher than the economy-wide average of 0.5 percent over the last 20 years and approximately 1 percent in the 1980's.

[57]The asset sale subsample may also experience a shift in risk of operating returns from the reconfiguration of plant assets.

Table 1A

Year Completion of 215 Sample Candidate MBOs and of 58 MBO's in Sample

Year of MBO	Sample Candidate MBO's Number	Sample Candidate MBO's Percent	Sample MBO's Number	Sample MBO's Percent of Sample	Sample MBO's Percent of Sample Candidate MBO's in same year
1974	2	0.9%	0	0.0%	0.0%
1975	5	2.3	0	0.0%	0.0%
1976	2	0.9	0	0.0%	0.0%
1977	9	4.2	1	1.7	11.1
1978	11	5.1	0	0.0	0.0
1979	11	5.1	2	3.5	18.2
1980	7	3.3	2	3.5	28.6
1981	18	8.4	4	6.9	22.2
1982	27	12.6	6	10.3	22.2
1983	27	12.6	9	15.5	33.3
1984	42	19.5	12	20.7	28.6
1985	31	14.4	16	27.6	51.6
1986	23	10.7	6	10.3	26.1
	215	100.0	58	100.0	N/A

Table 1B
Years of 58 Sample MBO's
and Subsequent Performance Data[1]

LBO Year	77	78	79	80	81	82	83	84	85	86	87	88	Subsequent Events
1977													
1.	*				X	X	X						IPO 83
1979													
1.			*				X	X	X				IPO 86
2			*				X	X	X	X			Acquired 87
1980													
1.				*	X	X	X	X					Bankrupt 85
2				*	X	X	X	X	X	X			Liquidated 86
1981													
1.					*	X	X						IPO 83
2.					*	X	X	X	X				Liquidated 85
3.					*	X	X	X	X	X			Acquired 88
4.					*	X	X	X	X	X	X		
1982													
1.						*	X	X	X				IPO 86
2.						*	X	X	X				Acquired 87
3.						*		X	X	X			Acquired 87
4.						*	X	X	X	X			IPO 86
5.						*	X	X	X	X			IPO 86
6.						*	X	X	X	X			
1983													
1.							*	X	X				
2.							*	X	X				
3.							*	X	X	X			IPO 86
4.							*	X	X	X			IPO 87
5.							*	X	X	X			IPO 87
6.							*	X	X	X			
7.							*	X	X	X			
8							*	X	X	X	X		IPO 87
9.							*	X	X	X	X		IPO 87
1984													
1.								*	X				Acquired 86
2.								*	X				
3.								*	X				
4.								*	X				
5.								*	X	X			Acquired 86
6.								*	X	X			Acquired 86
7.								*	X	X			
8.								*	X	X			
9.								*	X	X			
10.								*	X	X			
11.								*		X	X		IPO 87
12.								*	X	X	X		IPO 87

Table 1B (Continued)
Years of 58 Sample MBO's
and Subsequent Performance Data

LBO Year	77	78	79	80	81	82	83	84	85	86	87	88	Subsequent Events
1985													
1.									*	X			IPO 86
2.									*	X			IPO 86
3.									*	X			IPO 86
4.									*	X			Acquired 86
5.									*	X			Acquired 88
6.									*	X			Liquidated 87
7.									*	X			
8.									*	X			
9.									*	X			
10.									*	X			
11.									*	X			
12.									*	X			
13.									*	X	X		Acquired 88
14.									*	X	X		
15.									*	X	X		
16.									*	X	X		
1986													
1.										*	X		IPO 87
2.										*	X		Acquired 87
3.										*	X		Acquired 87
4.										*	X		
5.										*	X		
6.										*	X	X	

[1] An * indicates the year the MBO was completed. An X indicates a year with available post-MBO performance data.

Table 1C

Number of Years of Performance Data
in Post-MBO Period for Total Sample of 58
MBO's 1977-1986, and for Subsamples With and
Without Significant Asset Sales in Post-MBO Period

Number of Years in Post-MBO Period	Subsample without ----Asset Sales---- Number of Sample Firms	%	Subsample with ----Asset Sales---- Number of Sample Firms	%	----Total Sample---- Number of Sample Firms	%
1	11	39	10	33	21	36
2	8	28	7	23	15	26
3	4	14	7	23	11	19
4	3	11	5	17	8	14
5	1	4	0	0	1	2
6	1	4	1	3	2	3
Total	28	100	30	100	58	100

Table 1D

Sources of Post-MBO Performance Data
for 58 MBO's, 1977-1986.

	Subsample Without Asset Sales	Subsample With Asset Sales	Total Sample
IPO of Common Stock (S1-Reg)	9	8	17
Public Debt/Preferred Stock (10 K's)	13	19	32
Confidentially Released (Annual Reports)	6	3	9
	28	30	58

Table 2

Industry Membership of 215 Sample Candidate MBO's and 58 Sample MBO's

Industry	SAMPLE -CANDIDATES- # Firms	%	---SAMPLE--- # Firms	%
Amusement & Recreation Services	2	0.9%	1	1.7%
Apparel & Accessory Stores	8	3.7	2	3.4
Apparel & Other Services	20	9.3	5	8.6
Business Services	8	3.7	1	1.7
Chemicals & Allied Products	5	2.3	1	1.7
Communications	2	0.9	2	3.4
Depository Institutions	1	0.5	0	0.0
Eating & Drinking Places	8	3.7	2	3.4
Electronic & Other Electric Equipment	8	3.7	1	1.7
Fabricated Metal Products	10	4.7	2	3.4
Food & Kindred Products	15	7.0	8	13.8
Food Stores	5	2.3	2	3.4
Furniture & Fixtures	2	0.9	1	1.7
Furniture & Homefurnishing Stores	2	0.9	1	1.7
General Building Contractors	2	0.9	0	0.0
General Merchandising Stores	7	3.3	4	6.9
Health Services	3	1.4	0	0.0
Heavy Construction, Except Buildings	3	1.4	0	0.0
Holding & Other Investment Offices	3	1.4	0	0.0
Hotels & Other Lodging Places	1	0.5	0	0.0
Industrial Machinery & Equipment	4	1.9	0	0.0
Instruments & Related Products	4	1.9	1	1.7
Leather & Leather Products	2	0.9	0	0.0
Lumber & Wood Products	2	0.9	0	0.0
Misc. Manufacturing Industries	5	2.3	0	0.0
Misc. Retail	6	2.8	3	5.2
Motion Pictures	2	0.9	0	0.0
Nondepository Institutions	2	0.9	1	1.7
Paper & Allied Products	3	1.4	2	3.4
Primary Metal Industries	5	2.3	1	1.7
Printing & Publishing	6	2.8	2	3.4
Real Estate	7	3.3	1	1.7
Rubber & Misc. Plastic Products	10	4.7	3	5.2
Security & Commodity Brokers	1	0.5	0	0.0
Services, Nec	2	0.9	1	1.7
Special Trade Contractors	1	0.5	0	0.0
Stone, Clay, & Glass Products	3	1.4	1	1.7
Textile Mill Products	11	5.1	3	5.2
Transportation Equipment	8	3.7	2	3.4
Trucking & Warehousing	4	1.9	2	3.4
Water Transportation	1	0.5	0	0.0
Wholesale Trade-Durable Goods	4	1.9	0	0.0
Wholesale Trade-Nondurable Goods	7	3.3	2	3.4

Table 3

Summary Statistics Describing Firm Size, Stock Ownership, Financial Leverage, and Post-MBO Asset Sales for 58 MBO's, 1977-1986.

	FRACTILE		
	.25	.50	.75
FIRM SIZE			
PRE-MBO:			
Sales ($ Millions)	140.26	369.70	609.36
Tangible Assets ($ Millions)	64.00	183.92	393.27
Number of Employees (Thousands)	1.65	4.89	8.95
POST-MBO:			
Sales ($ Millions)	156.97	468.23	734.47
Tangible Assets ($ Millions)	69.14	221.20	444.09
Number of Employees (Thousands)	1.27	4.05	9.00
CHANGE ASSOCIATED WITH MBO:			
Sales ($ Millions)	-17.43	42.95	262.12
Tangible Assets ($ Millions)	-29.75	20.46	91.15
Number of Employees (Thousands)	-1.35	0.10	1.13
STOCK OWNERSHIP			
PRE-MBO:			
· % Officers	1.90	11.45	30.25
· % Outside Directors	0.34	1.60	9.86
· % Other Major Holders	0.00	9.29	22.07
· % Officers and Directors	4.66	16.56	35.70
· % Officers, Outside Directors and Other Major Holders	22.11	35.45	53.72
POST-MBO:			
· % Officers	6.05	16.73	53.25
· % Outside Directors	0.00	1.67	14.70
· % Other Major Holders	0.00	49.10	80.00
· % Officers and Directors	14.40	37.66	93.70
· % Officers, Outside Directors and Other Major Holders	77.90	95.26	100.00
CHANGE ASSOCIATED WITH MBO:			
· % Officers	0.62	6.70	38.99
· % Outside Directors	-3.53	-0.03	14.46
· % Other Major Holders	0.00	33.48	61.18
· % Officers and Directors	0.50	16.76	53.90
· % Officers, Outside Directors and Other Major Holders	33.15	56.25	78.25

Table 3
(continued)

	FRACTILE		
	.25	.50	.75
FINANCIAL LEVERAGE			
· Pre-MBO Debt/Tangible Assets	.40	.59	.67
· Post-MBO Debt/ Tangible Assets	.83	1.01	1.56
· Change in Debt/ Tangible Assets Associated with MBO	.32	.52	1.08
ASSET SALES FOLLOWING MBO			
· PROPERTY, PLANT, EQUIPMENT AS OF YEAR PRECEDING MBO SOLD AFTER MBO:			
Measure 1[1]			
· Total Sample	.00	.04	.27
· Subsample "Without Asset Sales" (28 firms)	.00	.01	.03
· Subsample "With Asset Sales" (30 firms)	.04	.26	.39
Measure 2[1]			
· Total Sample	.00	.00	.29
· Subsample "Without Asset Sales" (28 firms)	.00	.00	.00
· Subsample "With Asset Sales" (30 firms)	.00	.28	.56

[1] Measure 1 is the portion of the book value of net property, plant, and equipment in the year preceding the MBO (plus the writeup of net property, plant, and equipment in the MBO year) which is represented by the cumulative proceeds from the sale of property, plant, and equipment after the MBO. Measure 2 is (1.0 - Estimated portion of net property, plant, and equipment in the year preceding the MBO which is remaining in the most recent year in the post-MBO period).

Table 4

Median Value of Absolute and Relative Performance Measures[1]
Before and After 58 MBO's, 1977-86

PROFITABILITY

Operating Cash Flows/Operating Assets
(After Tax)

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	#
-10	0.123	NA	-0.005	NA	
-5	0.114	0.008	0.008	0.009	44
-4	0.128	0.010	0.038	0.015	52
-3	0.144	0.010	0.022	-0.028	54
-2	0.139	-0.006	0.030	-0.017	56
-1	0.161	0.026	0.076	0.035	54
0	---	---	---	---	--
1	0.203	0.043	0.119	0.057	55
>1	0.169	-0.037	0.089	-0.066	13

Operating Cash Flows/Operating Assets
(Before Tax)

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	#
-10	0.202	NA	0.022	NA	
-5	0.158	-0.038	0.011	-0.007	41
-4	0.194	0.001	0.061	0.011	49
-3	0.196	-0.004	0.033	-0.036	51
-2	0.201	-0.002	0.046	0.025	51
-1	0.240	0.026	0.093	0.043	48
0	---	---	---	---	--
1	0.283	0.062	0.161	0.039	53
>1	0.323	-0.021	0.119	-0.006	9

Sales/Operating Assets

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	#
-10	1.714	NA	-0.103	NA	
-5	1.865	0.163	-0.098	-0.040	48
-4	1.901	-0.011	-0.042	-0.045	52
-3	1.984	-0.046	-0.034	-0.005	54
-2	1.936	-0.008	0.005	-0.078	56
-1	1.935	0.006	-0.090	0.031	54
0	---	---	---	---	--
1	1.964	0.180	0.146	0.152	55
>1	1.913	-0.115	0.097	-0.068	13

Operating Cash Flows/Sales
(After Tax)

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	#
-10	0.057	NA	-0.006	NA	
-5	0.059	-0.005	0.008	0.001	44
-4	0.061	0.006	0.019	0.011	52
-3	0.065	0.007	0.005	-0.002	54
-2	0.056	-0.004	0.016	0.013	56
-1	0.082	0.012	0.046	0.013	55
0	---	---	---	---	--
1	0.100	0.005	0.046	0.011	56
>1	0.093	0.010	0.035	-0.007	29

Operating Cash Flows/Sales
(Before Tax)

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	#
-10	0.101	NA	0.011	NA	
-5	0.079	-0.011	0.000	-0.006	41
-4	0.101	-0.001	0.025	-0.001	49
-3	0.097	0.003	0.018	0.006	51
-2	0.100	-0.000	0.020	0.011	51
-1	0.124	0.012	0.049	0.015	49
0	---	---	---	---	--
1	0.144	0.015	0.065	0.010	54
>1	0.147	0.007	0.075	-0.009	18

Tax Bill/Sales

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	#
-10	0.036	NA	0.010	NA	
-5	0.022	-0.007	-0.000	-0.006	47
-4	0.022	-0.000	0.001	-0.001	52
-3	0.018	0.001	0.001	-0.000	52
-2	0.019	-0.002	0.002	-0.000	53
-1	0.025	0.000	0.003	0.000	51
0	---	---	---	---	--
1	0.005	-0.012	-0.014	-0.011	55
>1	0.005	0.002	-0.012	0.002	20

Operating Cash Flows/Employees (000's)
(After Tax)

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	#
-10	1.858	NA	0.132	NA	
-5	2.109	0.886	-0.334	-0.775	36
-4	3.049	0.500	0.482	0.766	41
-3	5.107	1.134	1.147	1.777	44
-2	4.180	-0.038	1.440	0.124	45
-1	5.731	0.845	3.300	0.170	41
0	---	---	---	---	--
1	8.310	3.606	8.351	4.274	46
>1	7.182	-1.309	0.209	-4.619	7

Operating Cash Flows/Employees (000's)
(Before Tax)

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	#
-10	3.382	NA	0.606	NA	
-5	3.527	1.664	-0.250	-0.420	34
-4	5.385	0.693	1.179	1.220	39
-3	5.889	0.921	1.827	2.134	42
-2	7.192	0.011	1.609	-0.216	42
-1	8.889	0.735	3.631	-0.135	38
0	---	---	---	---	--
1	13.122	3.649	9.702	2.261	45
>1	11.993	-0.960	2.492	-1.867	6

Employees/Sales

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	#
-10	0.026	NA	-0.005	NA	
-5	0.018	-0.008	-0.003	-0.000	39
-4	0.016	-0.002	-0.005	-0.000	43
-3	0.014	-0.001	-0.004	0.000	44
-2	0.014	-0.001	-0.004	0.000	46
-1	0.011	-0.001	-0.004	0.000	41
0	---	---	---	---	--
1	0.010	-0.002	-0.004	0.001	46
>1	0.009	-0.000	-0.001	0.001	7

WORKING CAPITAL MANAGEMENT

Inventory Holding Period (Days)

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	#
-10	90.200	NA	-2.841	NA	
-5	82.287	-5.522	0.290	1.867	43
-4	84.430	-0.916	-1.908	-0.767	46
-3	77.705	-0.445	-0.675	-0.605	47
-2	78.161	-0.153	-4.253	2.673	49
-1	70.711	-1.729	-6.779	-1.720	48
0	---	---	---	---	--
1	65.553	-2.535	-13.818	-3.435	49
>1	57.421	2.187	-12.450	0.473	7

Receivables Collection Period (Days)

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	#
-10	48.579	NA	-2.390	NA	
-5	44.896	-1.344	-1.144	0.696	48
-4	45.709	-0.316	-2.484	-1.715	52
-3	45.898	0.395	-4.599	-0.264	54
-2	43.678	0.041	-4.465	0.525	56
-1	44.948	-0.480	-5.654	-0.115	55
0	---	---	---	---	--
1	43.042	-0.505	-7.811	-2.816	56
>1	41.837	-0.459	-6.547	0.112	11

Operating Cycle (Days)

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	#
-10	142.401	NA	-5.090	NA	
-5	126.211	-10.377	-2.194	-0.223	43
-4	132.252	-1.576	-6.926	-1.018	46
-3	123.162	-1.520	-5.928	-1.839	47
-2	122.257	-0.609	-17.141	0.174	49
-1	115.478	-0.865	-10.400	-1.952	48
0	---	---	---	---	--
1	106.068	-3.816	-24.216	-5.406	49
>1	102.377	0.809	-15.886	-1.485	8

Accounts Payable Period (Days)

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	#
-10	30.490	NA	-2.812	NA	
-5	30.497	0.016	-3.113	-1.221	42
-4	27.865	-0.427	-3.846	-1.664	46
-3	27.112	0.782	-7.549	-0.704	48
-2	29.104	0.313	-5.814	0.199	50
-1	32.737	1.203	-3.361	0.722	49
0	---	---	---	---	--
1	33.064	1.151	-1.223	2.239	50
>1	31.360	0.740	-3.485	-2.646	8

Sales/Working Capital

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	#
-10	5.267	NA	-0.936	NA	
-5	5.375	0.404	-1.986	-0.017	38
-4	5.652	0.144	-1.739	0.140	41
-3	6.112	0.258	-0.967	0.383	42
-2	6.944	-0.250	-0.504	0.149	44
-1	6.592	-0.036	-1.431	-0.524	44
0	---	---	---	---	--
1	7.514	0.878	-0.311	2.097	44
>1	6.670	0.024	-0.354	0.183	10

DISCRETIONARY EXPENDITURES

Capital Expenditures/Sales

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	n
-10	0.033	NA	-0.008	NA	
-5	0.042	0.004	-0.008	-0.002	50
-4	0.040	0.004	-0.004	0.002	55
-3	0.039	-0.003	-0.010	-0.003	56
-2	0.035	0.004	-0.006	0.002	58
-1	0.036	-0.001	-0.020	-0.003	57
0	...	...	...	...	..
1	0.022	-0.005	-0.030	-0.003	57
>1	0.027	0.001	-0.022	0.000	24

Advertising Expense/Sales

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	n
-10	0.021	NA	0.006	NA	
-5	0.018	0.000	0.003	-0.000	12
-4	0.022	0.001	0.004	0.000	20
-3	0.019	0.000	0.001	0.001	21
-2	0.024	0.001	0.003	0.001	21
-1	0.027	0.001	0.004	0.002	21
0	...	...	...	...	..
1	0.024	-0.001	0.004	-0.002	22
>1	0.021	-0.000	-0.000	0.001	6

Maintenance & Repairs Expense/Sales

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	n
-10	NA	NA	NA	NA	
-5	0.004	NA	NA	NA	0
-4	0.008	0.003	NA	NA	1
-3	0.020	-0.001	NA	NA	1
-2	0.016	0.001	NA	NA	2
-1	0.019	-0.000	NA	NA	5
0	...	...	...	...	..
1	0.019	-0.001	NA	NA	19
>1	0.021	-0.001	NA	NA	7

R & D Expense/Sales

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	n
-10	0.014	NA	0.001	NA	
-5	0.010	0.000	0.005	0.002	7
-4	0.010	0.001	0.005	0.000	7
-3	0.009	0.000	0.001	-0.002	7
-2	0.012	0.000	0.002	-0.001	7
-1	0.012	0.001	0.001	0.001	7
0	...	...	...	...	..
1	0.018	0.000	0.000	-0.002	7
>1	0.003	0.000	0.000	0.000	3

FINANCIAL LEVERAGE

Debt/Tangible Assets

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	n
-10	0.473	NA	0.003	NA	
-5	0.529	0.059	-0.046	-0.033	43
-4	0.558	-0.008	-0.021	0.009	51
-3	0.568	-0.008	-0.043	-0.007	52
-2	0.586	-0.013	0.008	0.004	53
-1	0.559	-0.023	-0.028	-0.005	53
0	...	...	...	...	..
1	1.034	0.562	0.458	0.535	55
>1	0.995	-0.058	0.381	-0.015	17

Operating Cash Flows (Before Interest and Taxes)/Interest Expense

Year	Absolute Level	Absolute Change	Relative Level	Relative Change	n
-10	8.599	NA	-1.544	NA	
-5	4.882	-4.102	-4.488	-1.838	39
-4	4.976	0.395	-2.615	1.325	48
-3	4.791	0.093	-3.153	0.352	51
-2	5.151	0.059	-3.966	-0.462	51
-1	6.721	1.108	-3.705	1.153	49
0	...	...	...	...	..
1	1.850	-5.044	-4.377	-4.218	54
>1	2.689	0.868	-8.767	-2.229	18

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[1] A relative performance measure for a given firm and year is the deviation from the industry average in that year, including all Compustat firms with the same (usually) four-digit SIC code and fiscal year end within 3 months of the sample firm.

Table 5
Significance Tests Regarding Changes in Relative Performance
Measures Associated with 58 MBOs, 1977-1986:
Total Sample and Asset Sale Subsamples[1]

	TOTAL SAMPLE				SUBSAMPLE W/O ASSET SALES				SUBSAMPLE WITH ASSET SALES			
PERFORMANCE MEASURE	Z^2	Percentile[3]	Signif. Level[4]	# Obs.	Z^2	Percentile[3]	Signif. Level[4]	# Obs.	Z^2	Percentile[3]	Signif. Level[4]	# Obs.
PROFITABILITY												
Operating CF/Operating Assets (after tax)	✓8.41	1.000	.003	103	✓6.42	1.000	<.001	44	✓5.56	.939	.098	59
Operating CF/Sales (after tax)	✓12.60	1.000	<.001	123	✓8.93	.997	.004	55	✓8.91	.996	.005	68
Sales/Operating Assets	2.71	.941	.090	53	3.04	.952	.052	24	0.90	.719	.548	29
Operating CF/Operating Assets (before tax)	✓8.08	.985	.016	87	✓5.89	1.000	<.001	33	✓5.66	.888	.119	54
Operating CF/Sales (before tax)	✓11.58	.991	.010	106	✓6.59	.987	.014	44	✓9.59	.977	.024	62
Tax Bill/Sales	-5.43	.000	<.001	54	-5.42	.000	<.001	26	-2.32	.150	.154	28
Operating CF/Employees (after tax)	✓21.36	.981	.024	66	✓14.22	.972	.093	21	✓16.16	.942	.086	45
Operating CF/Employees (before tax)	✓20.46	.984	.017	60	✓9.28	.898	.103	18	✓18.38	.970	.031	42
Employees/Sales	1.21	.473	.549	45	0.81	.513	.537	21	0.90	.441	.569	24
WORKING CAPITAL MANAGEMENT												
Inventory Holding Period	-1.61	.223	.393	47	-3.80	.102	.199	23	1.47	.672	.402	24
Receivables Collection Period	-4.29	.011	.082	53	-2.68	.108	.220	24	-3.36	.031	.194	29
Operating Cycle	-1.82	.048	.234	47	-3.23	.001	.006	23	0.61	.457	.728	24
Accounts Payable Period	2.59	.593	.408	47	1.58	.557	.453	23	2.07	.575	.442	24
Sales/Working Capital	7.60	.982	.019	42	7.41	.973	.028	21	3.34	.861	.154	21
DISCRETIONARY EXPENDITURES												
Capital Expenditures/ Sales	✓-7.61	.049	.076	130	✓-4.28	.000	.005	60	✓-6.40	.267	.446	70
Advertising Expense/ Sales	0.61	.166	.869	21	0.94	.812	.355	9	-0.01	.057	.998	12
Maintenance & Repairs Expense/Sales	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R&D Expense/Sales	-1.43	.286	.347	7	0.42	.835	.801	2	-1.96	.015	.016	5
FINANCIAL LEVERAGE												
Debt/Tangible Assets	38.10	1.000	<.001	53	30.71	1.000	<.001	26	23.25	1.000	<.001	27
Operating CF/Interest Expense (before taxes)	-1.78	.029	.163	49	-1.83	.019	.151	22	-0.74	.087	.337	27

[1] A relative performance measure for a given firm and year is the deviation from the industry average in that year, including all Compustat firms with the same (usually) four-digit SIC code and fiscal year end within 3 months of the sample firm.

[2] A ✓ indicates that the behavior of first-order autocorrelation coefficients estimated for each sample firm over up to 15 years prior to the MBO for levels and first differences in the relative performance measure provides stronger support for the analysis of levels. The absence of a ✓ indicates that the autocorrelation coefficients provide stronger support for the analysis of first differences. For the analysis in levels, relative performance measures are included for all post-MBO years beginning the year following the year the MBO was completed. For the analysis in differences, the change in the relative performance measure is estimated from one year preceding the MBO until one year following the MBO. In a few cases, missing data in year -1 or +1 relative to the MBO year requires this change to be estimated beginning with year -2 or ending after year +1. The standardization procedure applied prior to the cross-sectional aggregation adjusts for the number of years within each difference.

[3] The percentile represents the proportion of the 1000 trials (in which MBO and non-MBO firms in the same industry are selected randomly) which generates a Z statistic less than or equal to that for the MBO sample.

[4] The significance level is calculated as (NGE +1/1001), where NGE is the number of the 1000 trials (in which MBO and non-MBO firms in the same industry are selected randomly) which generates a Z statistic whose absolute value is greater than or equal to |Z| for the MBO sample.

Table 6

Summary of Cross-Sectional Regression Analysis of Change in Relative Performance Associated with MBO for Subsamples of MBO's With and Without Significant Asset Sales Following MBO[1]

I. REGRESSION RESULTS

PANEL A: SUBSAMPLE WITHOUT ASSET SALES

Dependent Variable	Constant	Δ Debt/ Tangible Assets	Δ Officer	Δ Outside Director	Δ Other Major Holders	Number of Obs.	R^2	$\bar{R}^2$	F
	Estimated Coefficients (t-statistics)								
Relative Operating CF/ Operating Assets (Before Tax)	-.186 (-2.085)[b]	.122 (2.006)[c]	.002 (1.422)	.006 (3.692)[a]	.004 (2.726)[b]	24	.59	.50	6.70[a]
(After Tax)	-.205 (-2.734)[b]	.138 (2.683)[b]	.003 (1.[illegible])[c]	.005 (3.824)[a]	.003 (3.026)[a]	24	.62	.55	7.90[a]

PANEL B: SUBSAMPLE WITH ASSET SALES

Relative Operating CF/ Operating Assets (Before Tax)	.304 (0.564)	-.141 (-0.492)	.011 (0.859)	-.002 (-0.261)	-.0006 (-0.082)	24	.09	-.10	0.49
(After Tax)	.198 (0.418)	-.110 (-0.423)	.012 (0.999)	-.003 (-0.292)	-.0005 (-0.068)	26	.10	-.07	0.61

a indicates significance at the .01 level or better
b indicates significance at the .05 level or better
c indicates significance at the .10 level or better

II. CORRELATION MATRIX

PANEL A: SUBSAMPLE WITHOUT ASSET SALES

	Δ Debt/Tangible Assets	Δ Officer	Δ Outside Director	Δ Other Major Holders
Δ Debt/Tangible Assets	1.00			
Δ Officer	-.23	1.00		
Δ Outside Director	.31	-.42	1.00	
Δ Other Major Holders	-.04	-.54	.04	1.00

PANEL B: SUBSAMPLE WITH ASSET SALES

	Δ Debt/Tangible Assets	Δ Officer	Δ Outside Director	Δ Other Major Holders
Δ Debt/Tangible Assets	1.00			
Δ Officer	-.07	1.00		
Δ Outside Director	.23	-.33	1.00	
Δ Other Major Holders	.15	-.52	.35	1.00

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[1] ΔDebt/Tangible Assets is the difference between the average firm ratio in the Post-MBO period (ranging from 1 to 6 years) and the average value in the 5 years preceding the MBO year. ΔOfficer is the change in the percent of outstanding common stock owned by corporate officers from just before the MBO to just after the MBO was completed. ΔOutside Director, and ΔOther Major Holders are the analogous measures for stock ownership by outside members of the board of directors and for other major owners who are neither officers nor directors.

Table 9

Summary Statistics Regarding Sales, Employees, and Employees/Sales for Sample MBO's versus Excluded MBO's[1]

	Pre-MBO Period[2]		Post-MBO Period[2]		Difference (Post-MBO - Pre-MBO)		% Difference	
SALES (in $ Millions)	Sample	Excluded	Sample	Excluded	Sample	Excluded	Sample	Excluded
.25	100.5	23.3	80.0	26.6	-132.1	-2.8	-43%	-7%
.50	345.2	46.3	210.0	49.5	5.8	6.6	8%	16%
.75	651.4	96.9	492.0	100.0	78.0	24.2	35%	64%
No. of Obs.	34	92	34	92	34	92	34	34
EMPLOYEES (Thousands)								
.25	1.30	.37	1.00	.30	-2.20	-.28	-47%	-35%
.50	5.60	.90	2.00	.60	-.90	-.04	-17%	-5%
.75	8.70	2.30	7.30	1.90	-.02	.06	-1%	14%
No. of Obs.	34	92	34	92	34	92	34	92
EMPLOYEES/SALES x 1000								
.25	.011	.011	.008	.009	-.008	-.009	-36%	-41%
.50	.016	.019	.014	.014	-.003	-.004	-21%	-27%
.75	.025	.028	.019	.019	-.001	-.001	-10%	-7%
No. of Obs.	34	92	34	92	34	92	34	92

[1] The 34 sample MBO's and 92 excluded MBO's have estimates of sales and employees in Dun's Million Dollar Directory and/or DATEXT for years +1 and/or +2 relative to the year the MBO was completed, and sales and employee figures on Compustat prior to the MBO.

[2] The pre-MBO figures are averaged for a given firm over the 5 years preceding the year the MBO was completed. The post-MBO figures are averaged over the 2 years (when available) following the year the MBO was completed.

Table 7

Summary Statistics Regarding Changes in
Dun and Bradstreet's "14 Key Business Ratios" for
MBO Sample versus Dun & Bradstreet Sample[1]

MBO Sample (Dun & Bradstreet Sample)	Quartiles 1	2	3	Mean	# of Obs.
1. Net Income/Sales	-0.07	-0.02	0.01	-0.04	56
	(-0.02)	(-0.01)	(0.03)	(-0.01)	(13)
2. Net Income/Total Assets	-0.08	-0.04	0.01	-0.04	56
	(-0.03)	(-0.01)	(0.01)	(0.00)	(12)
3. Net Income/Net Worth	-0.26	0.02	0.15	-0.04	56
	(-0.01)	(0.06)	(0.27)	(0.09)	(12)
4. Sales/Working Capital	-6.99	-0.16	2.70	24.24	56
	(-0.12)	(0.95)	(4.16)	(3.06)	(11)
5. Receivables Collection Period	-7.79	-1.24	4.57	-12.38	57
	(-11.71)	(-3.54)	(1.90)	(8.52)	(13)
6. Inventory Turnover	-1.07	0.13	2.92	15.23	51
	(-0.22)	(1.15)	(6.95)	(75.73)	(13)
7. Accounts Payable/Sales	-0.02	0.00	0.02	0.00	57
	(-0.03)	(0.01)	(0.02)	(0.00)	(13)
8. Total Assets/Sales	-0.02	0.11	0.34	0.18	57
	(-0.04)	(0.11)	(0.53)	(0.34)	(13)
9. Quick Ratio	-0.65	-0.34	0.09	-0.40	56
	(-0.79)	(-0.58)	(-0.03)	(-2.24)	(20)
10. Current Ratio	-0.98	-0.38	0.08	-0.54	56
	(-1.44)	(-0.47)	(0.01)	(-2.60)	(21)
11. Current Liabilities/Net Worth	0.11	0.94	2.49	1.89	57
	(0.01)	(0.39)	(1.28)	(0.91)	(21)
12. Current Liabilities/Inventory	-0.13	0.13	0.63	3.79	51
	(-0.11)	(0.10)	(0.85)	(0.17)	(20)
13. Total Liabilities/Net Worth	0.74	3.94	9.03	5.94	57
	(0.01)	(1.18)	(6.25)	(2.74)	(21)
14. Fixed Assets/Net Worth	-0.09	0.58	2.58	1.43	57
	(-0.08)	(0.24)	(0.89)	(0.84)	(21)

[1] The change in each ratio is measured from the most recent year preceding the MBO until the earliest year with available data following the MBO.

Table 8

Comparison of Performance Measures with MBO Sample
in Bull [1987, 1988] in Two Years Preceding and Following MBO

		Mean (Standard Deviation) Year Relative to MBO				T Statistic[1] (two-tailed probability)
SALES (in $ Millions)		-2	-1	+1	+2	
BULL SAMPLE		276.50 (354.63)	266.40 (327.91)	282.33 (336.82)	301.20 (372.01)	1.97 (.06)
SMITH SAMPLE:						
Subsample:	w/o asset sales	685.65 (1049.69)	618.61 (1044.09)	892.01 (1318.00)	678.76 (956.65)	2.54 (.02)
	with asset sales	556.94 (471.79)	607.42 (539.68)	536.46 (444.20)	492.39 (462.77)	-1.18 (.25)
Total		616.70 (788.92)	612.77 (810.94)	701.07 (960.67)	578.02 (727.08)	1.02 (.31)
FREE CASH FLOW/SALES						
BULL SAMPLE		.030 (.061)	.055 (.048)	.096 (.059)	.082 (.045)	5.04 (<.001)
SMITH SAMPLE:						
Subsample:	w/o asset sales	.034 (.074)	.040 (.061)	.081 (.080)	.104 (.104)	2.72 (.01)
	with asset sales	-.005 (.141)	.022 (.087)	.064 (.123)	.062 (.231)	2.42 (.02)
Total		.013 (.116)	.031 (.075)	.072 (.105)	.081 (.185)	3.04 (.004)
TAX BILL/SALES						
BULL SAMPLE		.040 (.026)	.041 (.026)	.021 (.023)	.024 (.025)	-3.23 (.004)
SMITH SAMPLE:						
Subsample:	w/o asset sales	.041 (.039)	.042 (.036)	.015 (.027)	.015 (.021)	-2.89 (.01)
	with asset sales	.027 (.030)	.030 (.033)	.016 (.023)	.004 (.070)	-1.65 (.11)
Total		.036 (.035)	.036 (.035)	.015 (.025)	.009 (.053)	-3.04 (.004)

Table 8
(Continued)

CAPITAL EXPENDITURES/SALES						
BULL SAMPLE		.033	.026	.023	.022	NA
		(.021)	(.014)	(.026)	(.014)	
SMITH SAMPLE:						
Subsample:	w/o asset sales	.042	.043	.026	.032	-3.50
		(.028)	(.038)	(.020)	(.024)	(.002)
	with asset sales	.086	.060	.047	.062	-1.70
		(.113)	(.066)	(.051)	(.085)	(.10)
Total		.066	.052	.037	.048	-2.34
		(.087)	(.054)	(.041)	(.066)	(.02)
INTEREST EXPENSE/SALES						
BULL SAMPLE		.013	.013	.050	.042	NA
		(.025)	(.023)	(.026)	(.019)	
SMITH SAMPLE:						
Subsample:	w/o asset sales	.016	.017	.078	.067	5.88
		(.012)	(.012)	(.046)	(.044)	(.0001)
	with asset sales	.028	.028	.077	.092	4.43
		(.034)	(.039)	(.083)	(.109)	(.0001)
Total		.023	.022	.077	.080	7.03
		(.027)	(.029)	(.068)	(.085)	(.0001)

[1] The T statistic corresponds to a paired-comparisons T test that the mean values averaged aged over the two years following versus preceding the MBO are equal. Using the procedure in Bull [1987, 1988], an observation is the two-year average value following the MBO for a given firm minus the two-year average value preceding the MBO for the firm.

FIGURE 1A

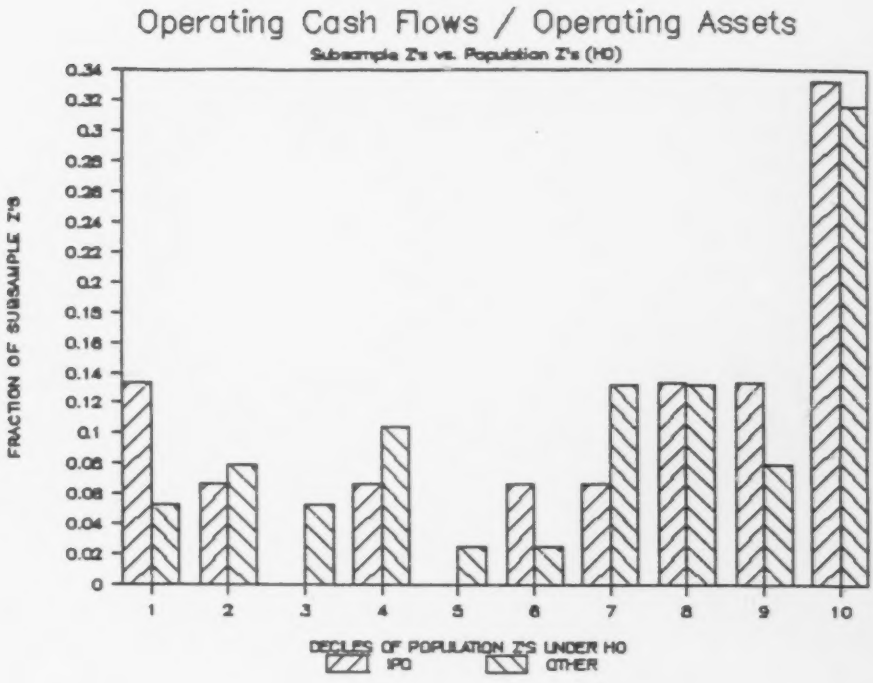


FIGURE 1B

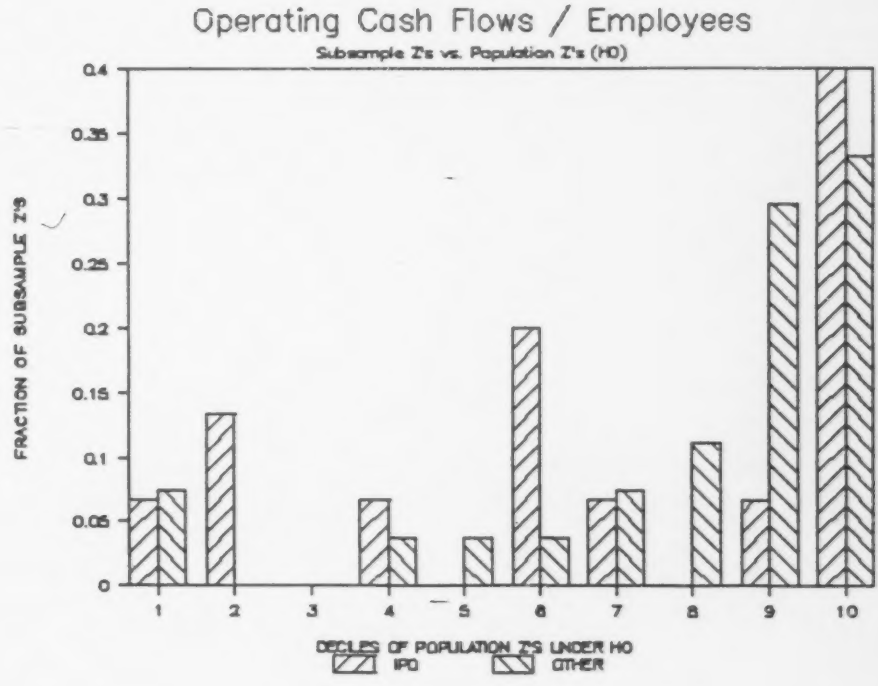


FIGURE 2A

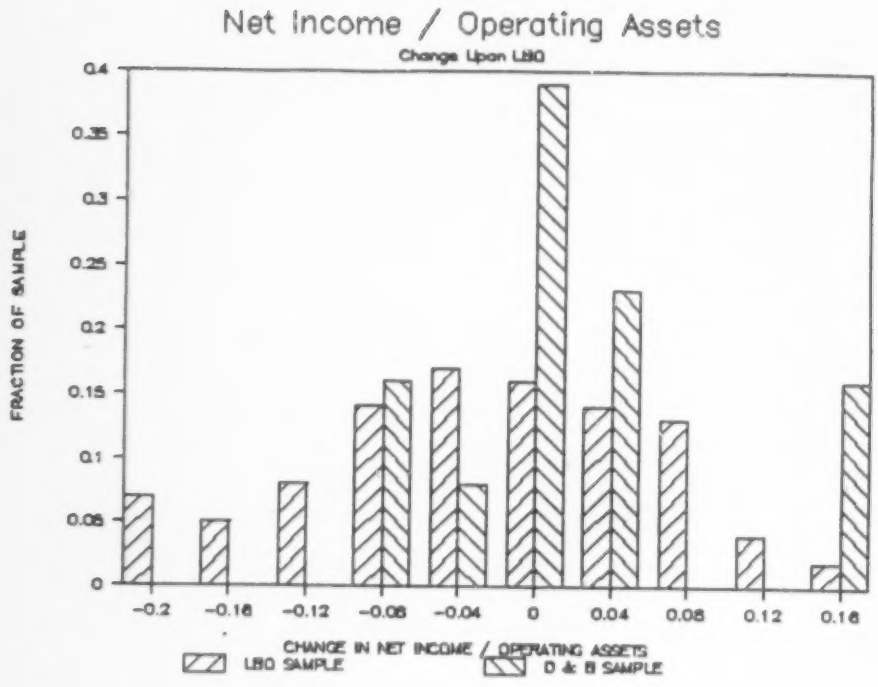
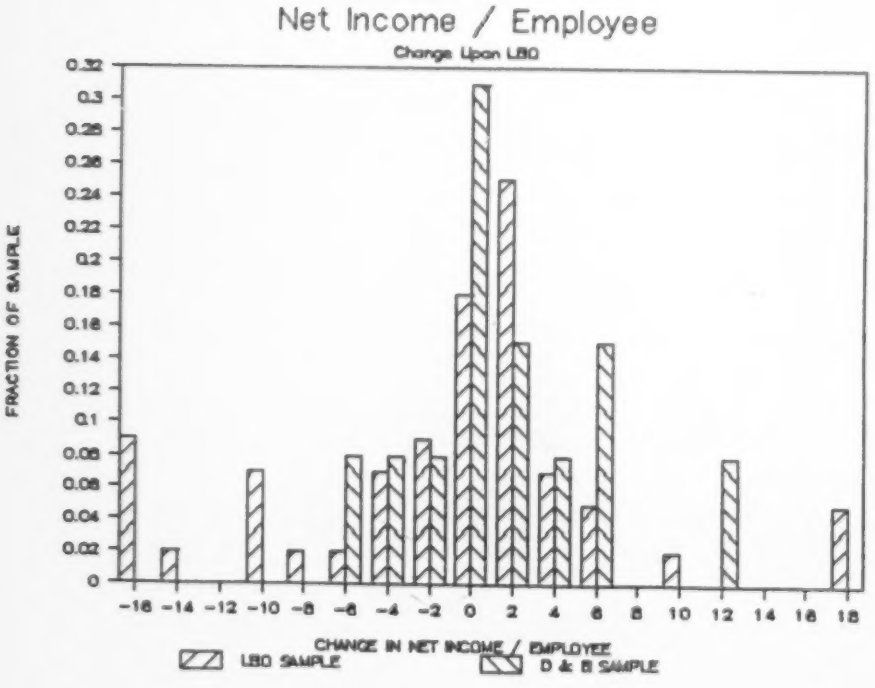


FIGURE 2B



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